



Official Journal of the European Association of Hospital Managers

HOSPITAL MANAGEMENT IN EUROPE

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EUROPEAN ASSOCIATION
OF HOSPITAL MANAGERS



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HOSPITAL
MANAGEMENT
IN EUROPE



The war in Ukraine is a double and sad reminder.

First, it is a reminder of Europe's key role in peace.

In recent years, many have criticised Europe, saying that the European Union is a problem and not a solution. And the same people think that if we have been at peace since 1945, Europe has nothing to do with it. When they think of Europe, they think of the economy, foreign workers, the euro, borders, rules, they never think of war and peace. They are wrong. Prosperity, money, freedom of trade and movement are tools of Europe, but its goal is peace. And Europe is succeeding.

Before the European Community was born, our countries went through two world wars that killed about 60 million Europeans. Since then, no member of the European Union has experienced war on its territory. None. But during the same period, several other European countries have experienced war and invasion. Hungary in 1956 and Cyprus in 1974, before they became members of the European Community. Also the countries of the former Yugoslavia for ten years, from 1991 to 2001. Today Ukraine and Russia.

We do not live in peace because we live in Europe or because we are lucky. We live in peace because the European Community protects us. To those who say they prefer their nation to Europe, a French president, François Mitterrand, replied: "Nationalism is war". He was right. What is happening today in Ukraine confirms this. The Eurosceptics are not only fighting against Brussels, they are also fighting against peace.

Secondly, a reminder of the importance of health systems.

All major crises make victims. This is the case with war, of course, and we see it today. It is also true of pandemics, and we have been experiencing this for two years. It is true with natural disasters, and many studies predict that they will increase because of climate change. It is true with the economic crisis, when the poorest people do not have enough money to live decently.

Without a good health care system, the number of victims increases dramatically, resulting in many avoidable deaths and disabilities.

No country can escape major crises forever, and each one reminds us that people need efficient hospitals that can take care of all those who need it. It is the responsibility of every government to build them. And the European Community must help its member countries to do so.

By the first day of spring, 3.4 million Ukrainians had already left their country, mainly for Western Europe. This is the biggest exodus in Europe since the last world war. All of them are going through a traumatic experience, many of them are children. In the coming months, it will be our duty as leaders to ensure that all those in need can be welcomed in our hospitals.

Philippe Bua
EAHM President

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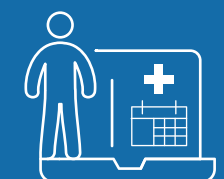
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CPage provides employees with three main tools: an employee portal called Qamino, a dedicated and secure space that simplifies exchanges, as well as an electronic signature system for contracts and amendments, and finally a digital safe for storing dematerialised pay slips.

In the end, this package of digital HR services also makes it possible to develop the establishment's attractiveness. It attracts new talent, builds loyalty and creates career paths for its staff. All of this contributes to boosting the hospital's employer brand.

GENERAL ASSEMBLY OF EAHM AND LAHMP CONFERENCE
VILNIUS, LITHUANIA – MAY 2022

General Assembly of EAHM and LAHMP Conference «Health Care Changes in the Context of Covid-19» Vilnius, Lithuania – May 2022



The Conference was dedicated to the 30th anniversary of the Association of Hospital Managers Physicians of Lithuania.

The day before, on 5 May 2022, the General Assembly of the European Association of Hospital Managers (EAHM) was held in Vilnius, Lithuania, where the new President of EAHM, Lucy Nugent, CEO of the Tallaght University Hospital in Dublin (Ireland) was elected. She will officially succeed Philippe Blua on 14 October 2022 at the next EAHM General Assembly in Athens. EAHM also elected a new President, namely Josef Düllings, CEO of the St. Vincenz Hospitals Salzkotten and Paderborn (Germany) and President of the German Association of Hospital Managers, who will succeed Mieczysław Pasowicz on the same date. We will be reporting more on these elections in the next issue of our magazine.

On 6 May 2022, the EAHM representatives attended the conference of LAHMP to discuss the challenges facing healthcare systems in Europe and to celebrate the 30th anniversary of the Lithuanian association.

The current president of EAHM, Philippe Blua, underlined that the LAHMP is a very active European association and added that all hospital managers in Europe feel a sense of communion, because they are facing similar challenges, which can be overcome by the exchange of experience. He also recalled that the

Lithuanian association LGVS is a very active member of EAHM.

The President of the Lithuanian Association, Kęstutis Štaras said that the events taking place near us in Europe are worrying for the whole hospital community. EAHM strongly condemned Russia's actions. Kęstutis Štaras drew attention to the incomprehensible attempts to obstruct medical assistance to civilian victims affected by the hostilities.

Former EAHM President Gerry O'Dwyer said that we must be aware of the challenges posed by the situation in Ukraine. Let's not forget the hospital colleagues who are doctors and nurses and who urgently need assistance.

In a joint statement, the European and Lithuanian associations sent an unequivocal message of solidarity to the Ukrainian people. EAHM is ready to respond, within the limits of its competence, to all requests for assistance.

The newly elected President of EAHM, Lucy Nugent, stressed the importance of communication and the importance of relations with the industry. Hospital managers must make their voices heard and ensure that they are involved in government decisions, also at a European level. We need to make the best use of people's capacities and share experiences. The aim is to do what is best for patients. ■



EAHM General Assembly and International Conference in Vilnius, Lithuania

The Association of Hospital Managers Physicians of Lithuania (LAHMP) was preparing to celebrate its 30th anniversary in 2021, but the COVID-19 pandemic changed the plans and the celebration had to be postponed until 2022. Therefore, on this occasion, an international conference “Health Care Changes in the Context of Covid-19” (hereinafter the “Conference”) will be held in Vilnius on 6 May 2022.

It was a challenge, a commitment, an honour and a huge responsibility in front of the whole EU, in the context of the global pandemic, to organize this Conference and General Assembly in Vilnius, where on May 5, the new EAHM President and Vice President were elected to hold the office during the term of four years.

A brief overview of the origins of LAHMP

The founding Congress of the LAHMP, where the Presidium was elected, took place on 5 April 1990.

The mission of the organization is to unite the managers of Lithuanian health care institutions and to represent the legitimate interests of its members, to improve the performance of health care services, to ensure the efficient management of health care institutions and provide training for the members of the Association. The LAHMP includes state, regional and district hospitals, rehabilitation, nursing, psychiatric hospitals, maternity hospitals, dental and outpatient health care institutions, as well as managers of medical centers and public health care institutions, which proves that the LAHMP represents the entire health sector of the country.

The LAHMP is a non-profit organization that unites legal entities entitled to provide health care services, as well as natural persons working in managerial positions in public and private health as well as wellness institutions.

An active participant in reforms

Established 30 years ago, along with an independent state building process, the LAHMP underwent a fundamental transformation from the Soviet health care system into a new modern health care system, which meets the progressive European quality standards for improving the quality and accessibility of national health care services. The organization has actively contributed to this process with its ideas, practical proposals and work, participated in developing the foundations of the country's health system management including the development of health legislation, the creation of a network of health institutions, continuous improvement of the system, as well as regulation of health relations.

As managers of health care institutions who are directly facing the challenges of changes, the members of the LAHMP continuously provided constructive and practical suggestions during the stages of the finding the optimal systemic solution to improve health indicators of the Lithuanian population, to modernize the network of health care institutions, to introduce new health care services, to develop and improve medical insurance. Thanks to their creativity, perseverance and dedicated work, all health care institutions have radically changed in functional, aesthetic and organizational aspects. The health care institutions have been modernized,



Kęstutis Štaras; President of LAHMP

equipped with modern medical equipment, integrated the principles of modern health management, adopted best practice of the EU countries, and continue to actively cooperate with the EAHM in organizing training for the LAHMP members, as well as international conferences and seminars.

The LAHMP is a member of the European Association of Hospital Managers.

On 31 August 1996 the LAHMP joined the European Association of Hospital Managers (EAHM).

The international conference “EU healthcare: from challenges to opportunities” organized by the two Associations took place in Vilnius on 28 June 2019.

Dr. Kęstutis Štaras, President of the Association of Hospital Managers Physicians of Lithuania, says that the organization will continue to actively represent the interests of the members of the Association and their legitimate demands in developing and improving modern management of health care institutions; will act as an intermediary in addressing current health care issues of the Lithuanian population in the Ministry of Health of the Republic of Lithuania, in the Parliament and in the Government; and will collaborate with foreign partners in developing the network of health care institutions according to the highest international standards.

We were very pleased to welcome the numerous participants to the Conference in the beautiful city of Vilnius on 6 May 2022, where distinguished speakers from Lithuania and abroad gave speeches.

The Conference was dedicated to the 30th anniversary of the Association. The theme of the event was “**Health Care Changes in the Context of the Covid-19**”. ■



Global Risk Management: a future solution for hospitals

Relyens group is the leading European mutual group providing insurance and risk management services for healthcare professionals and local authorities in France, Spain, Italy and Germany. Founded in 1927 by hospital directors, Relyens offers its clients unique expertise in risk management (clinical risks, together with cyber, staff and operational risks) willing to make a lasting contribution to a secure, high-quality healthcare system and local services for the direct benefit of European citizens.

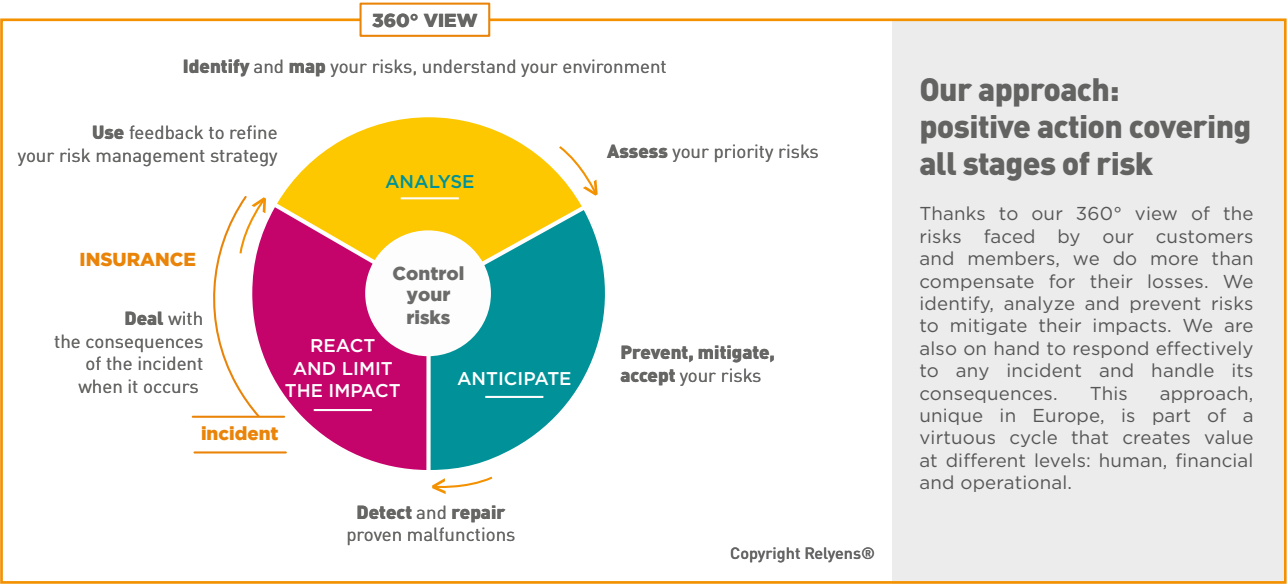
What are the developments facing the hospital sector? And how can they be addressed? Interview with CEO Dominique Godet.

Your experience working alongside European hospital directors gives you keen insight into the sector. In your opinion, what major challenges are there today?

Dominique Godet: “There are many challenges to be overcome. With structural budget constraints, growing challenges in terms of regionalised organisation and the digitalisation of practices, important changes are underway. At the same time, patients are more and more actors in their care pathway, while the legal framework continues to evolve along with developments in case law. While the changes in the sector open up real opportunities to improve health systems, particularly in terms of patient safety and the performance of organisations, they also create new risks.”

You have gone from being an insurance expert to a reference risk manager in Europe. Why do you consider this upstream work to be essential?

D.G.: “For many years, the Group has implemented a global approach to risk that goes well beyond paying compensation for damages. In addition to offering insurance, our multidisciplinary teams engage with our clients to help safeguard their activities, particularly through preventive work involving the provision of information, training, advice, and risk audits. This upstream work is absolutely fundamental. It is a way to identify and assess risks so that they can be managed and reduced more effectively by implementing targeted corrective action to improve the safety of patient care, enhance employees’ quality of life in the workplace and, potentially, reduce the client’s insurance premium.”



RELYENS: A HIGH-TECH AND CULTURAL TRANSFORMATION

The world is changing very quickly, particularly the technology world. What is your strategy to address the changes underway?

D.G.: “Given the rapid transformation of our customers’ healthcare environments, practices and offerings, we have expanded our suite of solutions to take our response to the next level. To this end, we have established exclusive partnerships with leading international technology companies. Our solutions focus on the use of data and artificial intelligence and target 3 risk areas: the identification and prevention of cyber risk (via our partners CyberMDX and aDvens), the reduction of clinical risk (with Caresyntax, CLEW and 360 medics) and the forecasting of activity and personnel flows (with our partner Amalfi).

This means that we can now predict certain risks even before they are compensated (flow of patients, deterioration of the state of health of a patient, absenteeism of employees, etc.), as well as identify and act on the risk in real time (correcting an operating technique in the operating room, dealing with a cyberattack on a medical device...)”.

« Act and innovate, alongside those who work for the common good, to build a world of trust. »

Would you say that the values that guide Relyens also ensure that its clients benefit from that «special personal touch» that has become its signature?

D.G.: “Our mutualist model and values (sharing, optimism, equity, responsibility) guide us on a daily basis in our long-term relationships with all our stakeholders. Our objective is to make a lasting contribution to a secure and quality healthcare system and local services, for the direct benefit of European citizens.

Conscious of our social responsibility, we have chosen to strengthen our commitment to our stakeholders by becoming a mission-driven company. Since 2021, this status has been written into the articles of association of the companies that make up the Relyens group and our purpose unites all of our employees: act and innovate, alongside those who work for the common good, to build a world of trust.

As a strategic compass of our Group, it guides our actions and qualifies the way in which we wish to contribute concretely to the society of tomorrow. We also promote close and constructive relationships with our many partners, in France and in Europe. Expertise and value creation are at the heart of the investment policy that we implement to promote innovation in the field of health. Through this unwavering commitment, we can help to improve the quality of our clients’ general interest missions for the benefit of patients and citizens. This is the highly meaningful mission that drives our day-to-day work and is a source of pride for all Group employees.”

About Relyens

The Relyens group supports

 **10,000** HEALTHCARE FACILITIES IN EUROPE

In 2021, it reported revenues of

 **€521 MILLION** FROM €952 MILLION IN PREMIUMS COLLECTED.

Relyens is the leading European mutual group providing insurance and risk management services for healthcare professionals and local authorities. Its more than 1,000 employees support 34,000 clients and members in 4 countries (France, Spain, Italy, Germany) to secure their activity and guarantee the continuity and quality of their mission of general interest, for the benefit of patients and citizens. Through its brands Sham and Sofaxis, the Group is developing a global approach of risk management, unique in Europe, combining prevention, risk management and insurance solutions.

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With his field experience, Tomas Bucher, Head of the Technical and Safety Department of the Clinique Romande de Réadaptation for more than 20 years and President of the Association Ingénieur Hôpital Suisse / Ingenieur Hospital Schweiz, enlightens us on the key function of Hospital engineer. The challenges are many!



THE STORY OF A VOCATION

- Born in Brazil, in São Paulo, in 1957, Tomas Bucher first decided to work as a draftsman in an engineering firm. Wishing to broaden the scope of his vision, he then pursued studies in Civil Engineering, until obtaining his diploma in 1981 (HTL Muttentz BL, Switzerland).
- Keen on the field and not wishing to solve daily equations in an office, he hoped to take part in the execution of construction sites. His wish was granted in 1985 when, during a trip to Brazil, he was hired there by a Swiss multinational, Ciba-Geigy (now Novartis), as deputy project manager for the new administrative headquarters in São Paulo.
- Back in Switzerland, he put this experience to good use and began to represent the client when he was awarded a project manager contract for the Swiss National Accident Insurance Fund (Suva), Construction division, in 1990.
- While managing several projects for Suva, including the construction of a new establishment, the Clinique Romande de Réadaptation, he saw the opportunity of offering a new turning point in his career, by becoming in 1999 Head of the Technical Service and security of it! He will therefore have accompanied her from birth until the age of maturity...
- It is in this context, to perfect his expertise, that in 1999 he joined the Association Ingénieur Hôpital Suisse / Ingenieur Hospital Schweiz, of which he has now been President for 7 years.

How would you describe the profession of Hospital Engineer, one of the various specialties at work in healthcare establishments?

“It is a very broad and versatile profession, within the framework of the hospital environment, through which you carry out all the work projects planned by the management of the institution, in addition to daily follow-ups, such as maintenance for example. It is at the crossroads of several professions, since we deal with ventilation, biomedical, energy, construction... In my practice, I meet colleagues who are mechanics, electricians, doctors, etc., sometimes architects and more rarely civil engineers, like me. I am therefore led to oversee a small organization made to measure for our clinic, which has 400 employees and 150 beds. It is a general practitioner's job with expertise in everything relating to the specifics of a hospital, including the needs of patients of course. What is special is that in Switzerland there is no specific training for a hospital engineer. The Austrians already offer a university course which trains technicians for this specialty.”

INTERNATIONAL NETWORKS

The question of training suggests that your Swiss Hospital Engineer Association maintains contacts with neighboring countries.

“In 2013, just before my arrival at the Presidency, we actually joined the European Congress in Bern, through the International Federation of Hospital Engineering (IFHE-EU). Work must still be undertaken to allow representatives of all national associations to take part in these congresses, even if since the health crisis activities have been adapting virtually. These contacts with foreign networks and colleagues must be developed. An exchange and communication platform has been set up with our German-speaking neighbors. The evolution of associations in general is encouraging. Our national congress has thus gained in importance, to such an extent that in recent editions we had to move to a larger location to accommodate participants and exhibitors.”

What are the main themes debated by the Association Ingénieur Hôpital Suisse?

“We operate in working groups. For energy, the idea is to establish a standard, in collaboration with the Federal Department. Standards exist for industry, housing, transport... Why not for hospitals? This would allow us to label any healthcare establishment, in the broadest sense, with regard to heating, lighting, and its entire carbon footprint. In biomedical matters, among other things, we study good maintenance practices. Then come interfaces with biomedical informatics, to assess its place within the hospital. One of the oldest groups is that devoted to medical gases. Legislative and standards aspects are also on the table of course. Finally, the Covid-19 pandemic

urged the formation of a security task force. Because this crisis has shown us that our risk analyzes have failed to warn us...”

ENERGY AND CLIMATE CHANGE

The questions of energy transition and the digitization of hospital services are certainly also on your agenda.

“Healthcare institutions will not escape the 4.0 revolution, which is already underway. Targeted healthcare applications are multiplying, more and more are certified and licensed, and, as I have seen in Scandinavia, robots have already pushed open hospital doors. This is a global trend: just like in the banking and insurance industry, administrative management will also be increasingly automated, with fewer staff. But medicine is intrinsically linked to people, not everything can be taken care of by computer systems. The digitization of hospitals must integrate this human dimension. Furthermore, I am an advocate of simple solutions. We must avoid creating constructions that are too complex, which would destroy the flexibility of action on the ground. From this point of view, maintaining dialogue between the hospital professions is also essential. As for energy, we are faced with a paradox, because a good part of what we manage to save thanks to the optimizations and the replacement of existing installations by more efficient ones is often lost due to the appearance of new devices very greedy in electricity. This is a key point of attention! Because hospitals are big consumers of energy. These issues are also on the agenda for the 27th IFHE Congress in Toronto, September 17-21, 2022. For the first time, an Energy Award will be given for the best project to reduce the carbon impact. Let us keep in mind that climate change threatens our overall health and that we may have to pay a heavy price if we do not correct things now. This represents a double responsibility for our profession.”

The EAHM wishes to develop a program of exchange of experiences and improve communication between hospital managers of all specialties. The new EAHM magazine is part of this strategy. What do you think?

“I approve of any initiative that aims to encourage the sharing of experiences. It is also by observing how our neighbors operate that we can make progress. Geographic boundaries are one aspect of this issue, but it is also crucial to look at it from a multidisciplinary perspective. In this case, it would be more about the boundaries that could be established between the professions, internally, in our establishments. Dialogue between nursing staff, doctors, therapists, administrators, etc. and managers is to be cultivated. I think in particular that the technique, which is at the center of all the actions, can represent an interesting bridge between us. Any type of communication can foster buy-in and I wish the EAHM every success.”

The Position of EAHM and LAHMP Regarding The War In Ukraine

Philippe Blua; President of European Association of Hospital Managers

Kęstutis Štaras; The President of the Association of Hospital Managers Physicians of Lithuania

Marc Hastert; Secretary General of European Association of Hospital Managers

We, the leaders of the Association of Hospital Managers Physicians of Lithuania and the European Association of Hospital Managers, are gathered in Vilnius in the midst of the unprovoked and unjustifiable military aggression by the Russian Federation against Ukraine. We hereby declare responsibly that we strongly condemn the Russian Federation's brutal actions against Ukraine, particularly against its civilian population.

There is and can be no justification or tolerance for the deaths of innocent people, especially women, the elderly and children. The attempts to obstruct the provision of emergency medical care to the injured, bombardment and demolition of medical facilities, attacks on medical personnel are beyond comprehension. We express our sincere condolences to the Ukrainian people for their losses.

Unity and solidarity is our key message to our colleagues in Ukraine today. We stand united in our support for the medical professionals in Ukraine, understanding the inhuman workload, harsh working conditions, stress and pressure, and, at the same time, their determination not to retreat, not to give up, and to continue their mission. At a time when the aggressor is relent-



lessly killing peaceful people, Ukrainian medics are making every effort to save as many lives as possible.

We believe that Ukraine is fighting for the whole Europe and our common values. For our part, we are ready to provide ongoing assistance to the best of our abilities, and we invite other European health care organisations to join us in this effort. In today's context, the leadership of physician managers is a significant prerequisite for the Ukrainian health system to receive the help it needs, whether it be medical equipment and supplies, medicines, human resources or strategic management input. ■



ZNA CADIX, A GREEN URBAN VERTICAL HEALTH CAMPUS

In the city of Antwerp, the second largest port city of Europe, a new central hospital is to optimise the care offer of Ziekenhuis Netwerk Antwerpen (ZNA). In an architectural competition, Design & Build teams had to provide both a design and location. The winning team Kairos - Euro Immo Star – VK Architects & Engineers - Robbrecht en Daem architecten - Omgeving proposed a central location in a green environment, between the revitalized Park Spoor Noord, former harbour docks and the city centre.

The largest healthcare organisation in Belgium, ZNA has three general and six specialised hospitals, employing over 6,000 people. The new ZNA Cadix hospital was intended to replace the nineteenth-century Stuijvenberg Hospital. During design and construction, the general trend towards shorter stays made it more sensible to transfer more daytime services to the new site.

ZNA Cadix covers some 65,000 m² - not including parking - and will have its own emergency department, ICU, burns unit, inpatient departments, day hospital and outpatient clinic. In March 2022, the Design & Build team handed the keys of the building to the hospital management. The new hospital opens in March 2023. Around 1,000 employees will move to ZNA Cadix.

AN AMBITIOUS STRATEGY

ZNA aims to be among the top 3 non-university hospitals in the Benelux based on measurable patient satisfaction. ZNA focusses its ambitions on five areas: patients as ambassadors of excellent care, a five-star hospital, high accessibility, satisfied employees and development of talent, and finally, a financially solid organisation. The new hospital is designed to realise this vision.

Several parameters made ZNA, in consultation with the City Architect, choose this design as the winning proposal: the top location on the docks, maximum accessibility in an urban district in full transformation, the simple design of a flexible and functional high-rise with fine detailing, the price and above all integration with the environment.

RECLAIMING A PIVOTAL PLACE IN THE CITY

The consortium of developers, contractors and designers truly delivered a new landmark. The hospital enters into a dialogue with the pivotal urban functions. Akin to a train station or museum, the location, social status and design of ZNA Cadix lend it an important architectural presence. As the backdrop for some of life's key moments, the hospital returns to its rightful place in the city centre.

Much attention was paid to interaction with the neighborhood. Except for a tramway, the public domain bans motorized traffic - the entrance for ambulances and logistics is below ground. Ships carried away 220,000m³ of earth for the 10m-deep building pit. Sunken patio gardens bring light and air to these areas. As such, the building offers a public space and passage between the city centre and Antwerp north. A new square up to the docks features a new tram and bus stop, a bicycle path, bike parking and bike sharing station. The landscaping was refurbished by the city of Antwerp, integrating access roads and greenery.

The building plinth opens several floors to the city. On the ground floor, a "boulevard of care" apart from the hospital's reception offers care related shops, a grand café, etc to maximise integration with the residential neighbours. Where the pedestrian flows cross, a monumental stairway connects the hospital's reception to the policlinics. The third floor with public panoramic terrace all around further opens up to the city.

With a distinctive signature and 20 floors, the hospital defines the Antwerp cityscape. Light green and blue shades lend it a pointillist appearance. Room-sized windows with varying depths add a striking presence and connect the rooms with the city, water and park, providing spectacular views. Cathedral glass, see-through glass and shadow boxes alternate in the boulevard of care as a subtly integrated work of art.

A STACKED AND VERTICALLY CONNECTED CONCEPT

Limited available ground area necessitated a vertical concept. With its 20 floors, this high-rise hospital is unique in Belgium. The small footprint limits walking distances within departments. The vertical circulation is well-developed, with separate lifts for priority medical services, bed transport and logistics. The design made important services adjacent, using relationship matrices, as such minimising lift use.

The actual hospital starts at level +1 with a clear readable structure. Up to level +7 are all outpatient activities, divided into critical (medical imaging, operating theatre, intensive care unit and burns centre) and non-critical services (day hospital, psychiatric ward, geriatric day hospital). Levels +7 to +14 house the classic inpatient departments - above the city bustle, with spectacular views of the city, park and docks. This creates a healing environment in an unconventional way and completely adapted to the location of the building. Administrative functions are located on top of the hospital.

This vertically connected and stacked concept makes for a hospital that is extremely flexible, adaptable and efficient in use.



PURPOSEFUL INNOVATION AND SUSTAINABILITY

The compact volume is based on a universal grid that fits with the programme of the car park, the medical services, the hospitalisation area and the offices. Lightweight floors that rest solely on columns add maximum flexibility and space for the technical installations in the hospital's suspended ceilings.

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Extensive green roofs contribute to rainwater management and to the visual comfort of the rooms that overlook them. Roof gardens in the patios lend a different atmosphere to each patio, including one water patio.

The highly insulated and airtight building envelope includes high-performance sunblocking glazing. Obvious measures include LED lighting only, with motion detectors. All ventilation units have heat recuperation at minimum 75 %. Flow limiters and infrared activation limit water use. Lifts have high efficiency motors at 90 %, brake energy recuperation and destination steering. Medical transformers show a high efficiency of 97,6 %.

All wood is FSC-certified and all paints are water-based. Most floors were finished with linoleum, a natural product. Ceramic floors, the outdoor paving and facades use ceramic and Terrazzo elements, all of which are recyclable natural products.

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Healthcare in Hungary

Dr. András Szepesi, President of the Editorial Committee of the online health magazine WEBORVOS and Mr. Attila Molnár, Director of International Affairs of EGVE answer questions from Hans-Peter Wyss, Chairman of the Working Group Communication of EAHM

32 years after the socio-economic system change, it is still difficult to compare Hungarian healthcare with that of developed Western European countries. The reason is that 46 years of state socialism left such a deep imprint on people's minds and the built environment that, despite many support programmes, it has not been fully compensated. Other reasons are Hungary's economic development, which causes persistent shortages in the humanities, and the specificity of the Hungarian language, which makes our relations difficult in both directions. It must be acknowledged that in these last two areas, the European Union has also provided a great deal of support, and results are being seen, especially in changing the knowledge and attitudes of the younger generations.

Our data, our reliable information, is almost exclusively for the years before 2020. In Hungary, the COVID epidemic has resulted in very strong centralised (government) control, with significant internal power shifts. Hospitals have been transferred from the Ministry of Human Resources to the Ministry of Interior, and medical university centres (20-25% of inpatient care) to the Ministry of Innovation and Technology. Free movement of health workers was severely restricted.

Performance-based (Hungarian DRG) funding was replaced by flat-fee funding during the epidemic, which is still in place.

What do health professionals think about the fact that the state spends about 5.5% of GDP on health (too little, too much or just enough)?

Health professionals think the same as European comparative statistics show, that Hungary spends too little of its public resources on running health care and maintaining institutions. This has been supplemented by the population (households) with about 2% of GDP by 2021. There were two elements to this supplement: a) out-of-pocket payments for medicines and medical aids, and expenditure on the purchase of services from private providers b) the peculiar Hungarian 'black money' system, which could be rightly described as a specific form of corruption. During the COVID epidemic, the government introduced a strict and sanctioned ban on the use of payola money, not only prohibiting the acceptance of payola money, but also its distribution. A state agency monitors enforcement and court sentences are also imposed on violators.

At the same time, there has been a very substantial increase in doctors' salaries (doubling overall, but enforced through a pay scale that takes into account age and professional knowledge). It should be noted that this has not been followed by a proportionately similar pay rise for profes-

sional and other non-medical staff, which is now a source of serious tension.

How does the renewal process work, i.e. how are decisions on replacement and refurbishment investments made?

This issue has not been satisfactorily resolved in the last 46+32 years. Due to the general resource constraints (relative poverty) of the country, there has never been a systematic, regulated source of depreciation. Short-term ad hoc solutions and ‘fire-fighting’ have characterised the technical maintenance and medical upgrading of institutions. The European Union’s system of development and catch-up grants has made a huge contribution to this, with some HUF 500-550 billion (almost EUR 2 billion) being allocated from 2004 to the architectural renovation and medical-technological upgrading of hospitals and other institutions. The only flaw was that the central region (Budapest and its surroundings) was excluded because of its ‘underdevelopment’. After a decade of delay, the government has started to make up for this, but so far it has not yielded much: there are still a few hospitals in Budapest that can be described, with a little exaggeration, as ‘museums of hospital architecture’.

What is Hungary’s experience with privatisation and private-public partnerships?

The two competing political blocs in Hungary have not been able to reach a unified position on this issue for 32 years. In fact, even particular governments are able to change their position from time to time.

There are three areas where the privatisation rate is very high and where private-public partnerships are more or less on a forced track. Practically all medical care, digital imaging and clinical laboratory care have been largely privately invested. Almost exclusively foreign ownership.

Due to the previous poor remuneration of doctors, an extremely high number of medical micro-enterprises have entered the market in recent decades, practically surviving only on private purchases from the public.

The larger capacity integrated outpatient specialties have emerged in the capital and in large cities. Previously with foreign owners, although in recent decades domestic capital has also emerged. Here too, there is little funding from public sources.

The private hospital start-ups all went bust in the first 20 years, with the exception of one specialised institution, the National Centre for Spine Care. Since a specialised expertise emerged here in a private organisation, for which there was no domestic alternative, the state was forced to buy (part of) its services. A few larger providers have appeared in recent years, but they all operate in the private purchasing market.

This situation is linked to the incomplete and inadequate development of the Hungarian social security system: no coordinated organisations have emerged to complement its benefits and provide financing. Neither the private insurance companies buying the services nor the non-profit voluntary funds serving the middle classes (e.g. Mutuel or Berufgenossenschaft, etc.).

What services are paid for by the National Health Insurance Fund (all services or a catalogue of services defined by law)?

The OEP, now renamed the National Health Insurance Fund Management, NEAK, provides «peacetime» DRG-based, case-rate financing, based on legislation. Certain services (e.g. aesthetic surgery, modern dental prostheses, etc.) are excluded, but many services are included. Everything that, in principle, could cause a deterioration in health if left out. It is then necessary to maintain this system, which health economists are quick to criticise. And a new problem is the rise in inflation, which such bureaucratic systems find difficult to keep up with anyway.

How does the Hungarian state regulate the supply of medical and nursing trainees; are there enough trainees in the health professions, and are these professions attractive to young people?

The state, through the creation and maintenance of training places, can regulate the number of

people entering (input) and, as the «big owner», the number of jobs and salaries.

Admittedly, this system also has many problems. Most importantly, we are acting as a free training ground for wealthier European countries, while there is a shortage of skilled workers here at home, who are emigrating in large numbers. The situation was already tense before the epidemic, but this is expected to worsen. At the beginning of 2022, the Central Statistical Office published that in one or two years, 28,600 workers had left the health and social sectors, 17,000 of them from the health sector. This is a rather alarming figure.

Hungary currently has 110 inpatient care facilities. In the past, these hospitals were owned by local and county governments. A major change took place in 2010, when the state took over ownership of the hospitals and with it the running of the hospitals.

In Hungary, hospital and outpatient care work closely together, both professionally and organisationally. The main reason for this is that more than 50 percent of outpatient capacity is run by hospitals and universities, while a smaller proportion is still run by local governments.

In our health care system, we strive to promote the principles of professional progressiveness. Primary care is provided by general practitioners, to which citizens are free to register, but rationality prevails, so that residents typically choose the nearest general practitioner. The competence of general practitioners is increasingly focused on prevention, which is encouraged by the National Health Insurance Fund through its funding instruments.

Care that goes beyond the scope of the GP’s professional competence is provided by the specialised outpatient care system, where the doctor refers the patient and can make an appointment. The most important areas of the relationship between primary care and specialist outpatient care are laboratory and diagnostic imaging services, as GPs do not have the necessary resources to provide patients with more than the most basic laboratory tests. Nor, of course, do they

have imaging diagnostics. In addition, outpatient specialist care provides a wide range of services across almost the entire spectrum of care. If necessary, the outpatient department can refer the patient to the hospital.

It should be noted that direct access to and provision of hospital care by a general practitioner is also possible if the patient’s condition and the potential risk to life justify it. Typically, patients are transferred from the general practitioner system to hospital via the emergency care system.

Inpatient specialised care in Hungary today takes place at three levels. Basic care, reasonably accessible to all, is provided by municipal hospitals. Due to their size and patient volume, they are available in the so-called basic specialties. In our interpretation, general surgery, general internal medicine, gynaecology and rehabilitation are considered to be basic specialties. Urban hospitals are not homogeneous in terms of their professional composition. In many cases, they provide basic care in other specialties in addition to the core specialties, which are mainly justified by the patient composition and morbidity data of the immediate environment. A typical example is the availability of basic trauma care in areas with a high risk of road traffic accidents.

Today, a process of centralisation is taking place in the health care system. Central hospitals have been designated, to which smaller member hospitals are attached, mainly on a regional basis. The centre hospitals are typically county hospitals, to which the city hospitals in the county are attached. The sharing of professional responsibilities and supervision is the responsibility of the centre hospitals.

During the period of the COVID crisis, the Hungarian care system was able to free up considerable capacity to care for infected patients. As a consequence, planned care had to be reduced. The necessary capacities, equipment and materials were available. The human resources needed to provide care also proved to be sufficient, although this was an area where we were approaching the limits of our capacity to deliver. A specific solution was to bring in human

resources from the military and the police to support hospital care, which was a major help, especially in the area of logistics, by reducing the workload of hospital staff.

Capacity management for the COVID epidemic was implemented by decree under centralised management. Obviously, the priority was to care for the infected, but care had to be taken to ensure that acute care was not permanently excluded.

The financing of the public health care system is performance-based. The tasks of financing and the preparation of the related legal regulations are carried out by a central body, the National Health Insurance Fund Management. It should be noted, however, that the name insurance in the name of the organisation is more a tribute to tradition, as there are no substantive insurance functions in its operation. It is typically a risk community-based financing system, but with a significant proportion of public intervention. All Hungarian adult citizens are obliged to pay health insurance contributions. In recent years, controls on this have been tightened and now only those who have paid the contribution can actually receive care. However, the state is responsible for paying contributions for minors, pensioners and those who are not obliged to pay contributions for other reasons (e.g. prisoners).

The Hungarian health financing system finances statutory benefits. This is under constant review, so that a significant proportion of the most modern benefits are available to the population. However, the problem is that there is legislation in place to include new benefits, while there is no legislation to exclude outdated, outmoded benefits from the funding package.

Currently, the budget available for health care is 5.5 % of GDP, but this is too low and should be between 10 and 11 %. For decades, there has been a debate in Hungary on whether the current capacity available for active and chronic care can be reduced. There are currently 69.4 hospital beds per 10 000 inhabitants. From a professional point of view, the available bed capacity could

be reduced, but there are trends to the contrary and in favour of doing so. Traditionally, the «Hungarian patient» is primarily hospital-centric. He believes that he can only receive meaningful and effective care in a hospital setting. This is of course not the case in reality, but it is a fact that has a significant impact on public opinion and perception of the health sector, and capacity rationalisation is often the victim of political considerations. Attention should also be paid to the fact that, especially in rural regions, the hospital is the largest employer in the area, so that the closure of hospitals is closely linked to labour policy issues.

At the same time, there is also a trend towards a steady decline in the number of doctors and nurses working in the health sector. The supply of nurses in secondary and tertiary education is declining. The outflow of doctors and nurses increased significantly at the beginning of the previous decade and then became permanent at a lower level. Today there are significantly fewer doctors available. This would require an optimisation of the care system to ensure a viable and adequate level of care.

The development of the Hungarian care system in the 110 hospitals under central control is being implemented through a process of individual hospital professional plans and political decisions, mainly in the form of tenders, where EU funds are involved. However, there are also specific public developments.

The relationship between public and private care in Hungary is not fully developed. There are small private providers that receive social security funding, for example in the area of day care. At the same time, large private providers are increasingly being set up to provide complex care, where the care is paid for entirely by the patients. The fact that the recognised professionals of the larger institutions divide their working time between public and private care is an obstacle to a satisfactory and legal resolution of this issue. Therefore, a satisfactory and definitive solution to this issue is still awaited. ■


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PUT YOUR HOSPITAL ON THE CLINICAL TRIAL RADAR!

Three critical success factors

Having health data of high quality, mature eSources and trustworthy dataflows are not “nice-to-have” requirements but “must-have” requirements to upscale your participation in clinical trials.



EU-PEARL (project funded by Innovative Medicines Initiative 2) focuses on these key factors. Within this project, the **European Institute for Innovation through Health Data (i~HD)** leads a) the information governance with specific responsibilities in trustworthy GDPR compliance, interoperability and data quality and b) the development

of the eSource readiness survey. Nearly all of i~HD's core work streams come together in EU-PEARL (www.eu-pearl.eu) which has the ambition to deliver a systematic approach to patient-centric, cross-company Integrated Research Platforms (IRP).

1. Health data of high quality

Data quality improvement strategies involve the management of people, processes, policies, technology, standards and data within a hospital. The i~HD Academy provides educational programmes on high-quality health data to support your trustworthy use of high-quality health data to continuously improve care and accelerate research. The Academy includes eLearning, summer schools and tailor-made in-hospital tutorials. While education and awareness are a crucial part of the data quality journey, data assessment also provides insights into the quality of your data. Therefore i~HD offers assessment tools to diagnose the quality of your health data. These tools are based on the 9 data quality dimensions.

Ensuring that the data is of a high quality seems evident and straightforward, but unfortunately, everyday practice proves that this is not the case.

Data Quality improvement strategy, one investment multiple returns:

- Participate in clinical trials.
- Reduce medical errors and save lives.
- Enhance your learning systems.
- Increase your profitability by better care path decision making.
- Prepare for the future.



Some misunderstandings about data quality

- **“Data quality is about measuring.”** NO! While measurement is an integral part of the data quality journey, it also involves the management of people, processes, policies, technology and standards within a hospital or GP clinic.
- **“Data quality is the concern of data management team.”** NO! Data is generated and collected at every point of interaction. All stakehol-

ders, including patients, are involved and should actively participate in the data quality effort.

- **“Data quality can be set right once and for all.”** NO! Data quality is defined within the context of ever-changing requirements. The quality of clinical data should therefore be regularly assessed and reassessed in an iterative process to ensure that appropriate levels of quality are sustained.



2. Mature hospital eSources (EHR, LIS, e-Rx, ...)

Extracting data in an efficient and (semi)automated way is crucial. But therefore you need to have a mature eSource system. i~HD offers an eSource readiness survey: by completing this survey, you receive a scoring index defining your site's eSource digital maturity to participate in clinical trials. The score helps you to identify any areas (pre-identification of patients - electronic data capturing for studies - GDPR compliance – EHR to electronic capture systems and data quality management) potentially blocking the participation in IRPs. Together with i~HD you define the most appropriate improvement strategy. A mature eSource will ensure that you come into the view of the sponsors (pharma & research institutes), enlarging your participation in clinical trials.

3. Trustworthy health data flows

The reuse of health data is crucial to boost research and drive innovation. Hospitals are often asked to provide research access to their EHR data to external research organisations and therefore need to be able to trust that the data flows and data analysis will happen in full compliance with the GDPR and that there is no loss of data quality.

IDHIS is a unique certification programme that audits the conformity of data flows into, within and out from health ICT systems against a unique set of international criteria relating to privacy, ethics, security and data protection. Independent auditors examine how organisations govern their staff, the processes, tools and practices that are in force and the resulting ICT systems.

CERTIFYING THE PRIVACY, SECURITY AND DATA PROTECTION COMPLIANCE OF PROCESSES, TOOLS AND PRACTICES IN HEALTH ICT SYSTEMS.

Collaboration with organisations, companies and institutes holding the IDHIS certificate ensures you these entities can be trusted as partner in your health data flow sharing. This will leverage your opportunities to participate in real-world data research.



As a neutral, multi-stakeholder institute, networking is one of our main drivers to maximise community value from health data. We connect thought leaders in different fields of expertise through our task forces. Participating in European R&D projects we develop, enhance and promote good solutions in the use of data and deriving societal benefit from health data (www.i-hd.eu).

YOUR HEALTH DATA MUST BE OF HIGH QUALITY THROUGHOUT THE WHOLE DATA LIFE CYCLE.

Introducing EGVE

Margit Béres, EGVE President

For more than 30 years, hospital directors have felt the need for a forum, an opportunity, a place where they could discuss their everyday problems and professional issues. They created this opportunity by setting up an association that is still present in our lives today.

Following the objectives of our predecessors, we continue our work and try to help our colleagues today. It is also part of our tradition to have been one of the first to organise an international conference at the invitation of the European Hospital Managers' Association. The first conference was an anticipation of trust and a friendly welcome into a new community, and this one is a recognition of 30 years of friendly and professional cooperation.

The Hungarian Association of Health Economic Managers has come a long way in the last few years. The social form has changed, and again and again the economic directors have had to operate and run their hospitals under different conditions. We are trying by all means to make our membership even better able to meet the challenges of management.

The most important event is the EGVE conference, which takes place twice a year. Here, renowned experts from home and the border region - mainly Austria - inform the participants about changes in their respective fields and their impact on the care system. International experiences will give us an insight into the functioning of hospitals in neighbouring countries and help our membership by sharing their experiences. Issues raised in the areas of healthcare financing, informatics, controlling and operations will be discussed. The afternoon and evening sessions provide an opportunity to make not only professional but also friendly contacts.

We organise our compulsory professional training courses under favourable conditions, which ensure that our members can obtain credits

according to the required topics. These programmes organised by the association have resulted in a membership of between 230 and 350 people. We have members from both active inpatient and outpatient units, and even from the general managers, because they have found that attending the conferences and training courses organised by the economic directors gives them a better understanding of the management conditions and answers to their questions.

We regularly publish an online publication of international press for our members, which gives them an insight into the international health sector's experiences and changes, and enables them to use the information they gain in their work. Our long-standing supporters, the Verband der Krankenhausdirektoren Deutschlands eV (VKD) and the Austrian Bundeskonferenz der Krankenhausmanager Österreichs, (BUKO) Österreichisches Institut für Krankenhausbetriebsführung. Strong professional and friendly links between the partner organisations and the EGVE have resulted in professional meetings, visits and several joint programmes.

We have always tried to keep up with the challenges and to represent together the economic-technical field in the field of health care. The professional recognition and importance of the EGVE is shown by the fact that we have the right to give an opinion on Hungarian health legislation.

The members of society only perceive that doctors and nurses do their job for patients, but no one thinks about what is needed to do it.

The task of the EGVE is to make people aware that the system cannot function without an economic organisation. We do not cure, but we provide the conditions for curing with our economic and technical knowledge. This is no small challenge for leaders. Our lives have not only been affected by economic changes, but a

new factor has entered - the Covid-19 epidemic - which has changed the life of hospitals significantly. Other priorities came to the fore and everyone had to deal with a specific situation without experience. We have learned and are learning a lot, we have been and are open to all new conditions.

We prepared for the conference with incredible dedication. It is a testament to the professional recognition of EGVE that very renowned international and national experts have agreed to raise the standard of the conference with their presentations.

The pandemic has not only overwritten the original date of the event. It was with a sad heart that we had to inform all interested parties that, unfortunately, our hopes have been dashed. Due to the fourth wave of the pandemic, the orga-

nisers decided that the conference will not take place this year. Thus, the evolution of the epidemic situation once again determined the events of our lives. We hoped that the conference programme would again create the opportunity to meet face to face. It would have been an opportunity for old acquaintances and friends to meet and new acquaintances to be made among the many meaningful programmes.

We are very grateful to the speakers who have agreed to present their papers, and who have remained faithful to the Budapest conference from 2020, and would have presented their papers to the participants at the extended date.

Aware of the international impact of the epidemic on the conference, I can only wish everyone good health and professional success in their lives! ■

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The (r)evolution of medical speech recognition

HOW AI IS HELPING PROVIDERS DELIVER HIGHER QUALITY CARE

Over the past decade, advances in artificial intelligence have had a significant influence on medical practice in healthcare institutions. And now, AI-powered technologies like speech recognition are defining the future of medicine, reducing workload pressure on physicians, and improving the quality of care for patients.

Clinical speech recognition allows physicians to input data into the EHR during patient consultations using just their voice. Could we say this technology helps to connect medical professionals and patients?

Pierre Meyblum: "Most hospitals have been digitalized over the past decade, and from studies, we've seen that nearly two-thirds of the average physician's work day is spent inputting data in the EHR and completing administrative tasks.

This takes away from their time interacting with patients. During a 15-minute consultation, a physician only gets six minutes to speak with the patient, capture their medical history, identify

puter screens and connect with their patients. It comes with a vocabulary tailored to healthcare and the ability to understand hundreds of accents, all without any training.

It means physicians can start using it in their workflow, no matter their technological experience.

Could we say that technology fades into the background during patient consultations?

PM: "That's what we're aiming for. We're trying to capture all the richness of the doctor-patient discussion, but in a totally natural way, with technology just sitting in the background.

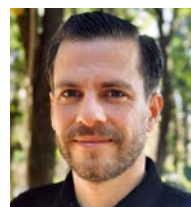
It's what we call ambient clinical intelligence. Hospitals that have integrated our solutions appreciate

them because they create positive, seamless experiences within their care teams.

We've deployed a solution in the US (which isn't available in Europe yet) that goes one step further, called Dragon Ambient eXperience (DAX). During the patient encounter, the conversation between the patient and the physician in the examination room is automatically captured by DAX, distinguishing what's said by each, and is sent to the EHR for the physician's review and signature.

It's a culmination of what all our healthcare technologies are about—saving time and work for physicians, and allowing them to focus on connecting with their patients, ultimately creating higher quality care services."

Contact us to find out more



Pierre Meyblum
Director of
Healthcare
International
Alliances at
Nuance

Pierre Meyblum has nearly ten years' experience working in healthcare throughout Europe, with expertise in a wide range of medical applications. During his career, he's noticed that many healthcare structures face the same challenges, no matter where they're based. Now, working with Nuance, Pierre helps healthcare providers solve these challenges using AI, reducing the administrative pressure on medical professionals and improving patient care journeys.

ABOUT NUANCE

Nuance is a conversational AI provider with more than 20 years' experience in the healthcare sector. Its AI-powered solutions are used by more than 10,000 healthcare organizations worldwide, and they capture over 300 million patient stories every year.

Focused primarily on clinical speech recognition, Nuance's solutions bring real-time intelligence to physician and patient interactions to relieve the pressure on medical professionals, and improve the delivery of care for patients.

<https://www.nuance.com/en-gb/healthcare/engage-us.html>



Biomedical and clinical engineering education, research and innovation landscape

Programs and achievements at Óbuda University

Tamás Haidegger and Levente Kovács, Óbuda University

Óbuda University's line of legal predecessors is tracked back to 140 years. Today, the institution is a key player in Hungarian higher education landscape, and a leading practice-oriented university providing technical education to the 13,000 students enrolled. It offers competitive knowledge in the fields of engineering, informatics, science, economics and teacher training in 7 faculties, 2 education centers, 17 undergraduate and 11 master's programs, focusing on interdisciplinary aspects, such as bioengineering, robotics and cyber security (<https://international.uni-obuda.hu/>). Master's graduates may continue their studies in 3 doctoral schools. The quality of education is indicated by the fact that the institution has a quality certificate according to the requirements of the ISO 9000 standard and has won the highest recognition, the Higher Education Quality Award.

Diversity in educational domains

Education is the cornerstone of all universities. Óbuda University has traditionally strengthened the utilization of its research and development results in the education programs, by establishing and developing BSc, MSc and PhD interdisciplinary courses and programs (which had not existed in the country or in the region). It was first to launch a hospital and medical technology program, cyber security program, robotics and artificial intelligence specializations at all training levels. One of the pillars of the institution's inter-

disciplinary approach is focusing on the biomedical engineering domain, culminating in structured programs, such as the Clinical Engineering and Medical Engineering MScs (<https://international.uni-obuda.hu/academics/degree-programs>). The aim of these programs is to train professionals who are able to perform skilled tasks in the wider field of healthcare, from healthcare institutions (hospitals, clinics, private clinics, diagnostic and rehabilitation centers, etc.) to the medical technology industry and services. Accordingly, in addition to their previous general technical and IT BSc degree, qualifications to be earned include the ability to take responsibility for the professional and safe operation of medical technology and hospital equipment in healthcare facilities, management of fine medical electrical machinery, instruments and equipment, and for the supervision of the facilities. These engineers are able to solve the technical tasks around digital medical devices/medical technology and get involved in hospital technology design, manufacturing and sales. Much of these trainings are conducted in association with the established medical partners, such as the Semmelweis University, the Semmelweis Clinics, the Gottsegen National Cardiovascular Center, the Medical Centre of the Hungarian Defence Forces or the Somogy County Kaposi Mór Teaching Hospital. Given Óbuda University's strong partnership with the medtech industry, students gain first-hand experience in the measurement, testing, service and quality as-

insurance works arising during production and operation, as well as the related management tasks during their compulsory internships. The university offers a wide range of modern training formats, such as dual degree, double degree, industry PhD and beyond.

Completing the biomedical engineering portfolio, a special post-degree program was launched 2 years ago, qualifying experts to fulfil the requirements of the EU Regulations 2017/745 (MDR) and 2017/746 (IVDR), providing the “Person Responsible for Regulatory Compliance” for the medtech R&D and manufacturing industry. In order to ensure compliance with the legal requirements, this program’s graduates acquired qualifications that guarantee that the responsible person will supervise and control adequately the manufacture of the devices, their placing on the market and the post-market monitoring of them. Óbuda University is a member of the regional Mediklaszter medtech platform (<http://mediklaszter.eu/en>), and has tight contacts with the Hungarian medtech industry’s leading representatives, such as Medisor, Mediso, 77 Elektronika, 3DHISTECH, GE Healthcare, BBraun and many others. The university has committed to launch a new science and innovation park with cybersecurity and medtech focus in the Zsámbék region, close to the capital. Óbuda University maintains an intensive and wide-ranging relationship with the IEEE (and the IEEE Hungary Section within), serving in numerous leadership positions.

Furthermore, reaching beyond the borders, the Carpathian Basin Online Education Center (K-MOOC, <https://www.kmooc.uni-obuda.hu/>)

was launched 8 years ago, which is a unique platform to stream and make available significant amount of the university’s teaching materials in the form of the increasingly popular and widespread Massive Open Online Courses (MOOC).

Spearheading interdisciplinary research

Óbuda University provides excellent opportunities for scientific research professionals. The best example of this is the University Research and Innovation Center (EKIK), which represents the value in the field of bio robotics, health informatics and research and development that is recognized in Hungary and worldwide (ekik.uni-obuda.hu/). EKIK was established on the initiative of university’s founder rector, Prof. Dr. Imre J. Rudas, with the aim to prioritize applied research and innovation ^[1]. The thematic research centers of EKIK have their own lab spaces, high-value and cutting edge equipment. At EKIK, there are open spaces offered for project-based research, teaching and technology transfer processes for all university citizens. Altogether a modern, interdisciplinary research center was established at Óbuda University, where professionals conduct high-standard research in the fields of robotics, AI, digital health, cyber-medical systems, health informatics, sensing, data analysis, modelling and regulation and bioengineering.

The digitization of healthcare (Healthcare 4.0) is a key development area, where the university aims to operate and further develop a leading doctoral school and related research centers (Antal Bejczy Center for Intelligent Robotics - irob.uni-obuda.hu/, Physiological Control Research Center

<https://physcon.uni-obuda.hu/en/home-english/> -- , BioTech Research Center - <http://biotech.uni-obuda.hu/en> - and so on) in cooperation with domestic and international companies and higher education institutions. This is based on the European Research Council’s ERC StG grant, and on the da Vinci surgical system available together with its research kit ^[13], to strengthen the field of healthcare robotics, which is also unique in Hungary. Researchers are welcomed to join to best exploit the EKIK’s research infrastructure and professional achievements in the fields of biostatistics, medical data analysis and big data, medical sensing and deep learning.

The EKIK also harbours the university’s Cyber-Physical Competence Center (KIKOK - <https://kikok.uni-obuda.hu/en/main/>) established in 2019, to operate and maintain a truly interdisciplinary competence center at the border of Academia and Industry. The consortium partners within KIKOK are suitable to conduct applied research activities in the field of medical information systems, aiming to fast-track ground-breaking innovation and industrial developments with industry and other partners. The KIKOK has shown merit in various activities, from design thinking, advanced medtech prototyping to placing products and services on the market. The strategic goal of both the competence center and the Óbuda University itself through this partnership is to build a substantial knowledge base and network of partners to work together on building a leading “medical information system development cluster”, catalyzing and consolidating our Central European region.

Planting the seeds of innovation

A higher educational institution in the 21st century is unimaginable without innovation, as it is the key “product” of the university, in addition to highly qualified professionals. Innovation is about creating the ideal conditions for the business application of radically new ideas. While the innovations and discoveries documented in the course of scientific research are regularly presented to each other by the members of the scientific community (in the form of scientific dissemination), the commercial products created through innovation can be useful for all, sometimes even on a global scale. The role of the university in innovation is mainly to create the creative ideas that underpin new products and the prototypes that build on them. We believe that innovation medtech is the most important breakthrough point for Hungarian higher education, since it had been an underdeveloped area in the past. In our accelerated world, innovation itself has globalized as well, making companies realize that they need to change their traditional R&D approaches. Therefore, traditional, large medtech companies are now also looking for opportunities to collaborate with new types of idea houses, think tanks and developers, and especially universities, from where a modern approach to innovation could be incorporated into their slower development mechanisms. Thus, the Óbuda University has become a key partner of several global companies.

The EKIK has opened the door to this new kind of thinking that research, education and innovation should be treated on an equal footing and



The main campus of Óbuda University in Budapest



Cutting edge medical robotics research at the University Research and Innovation Center.

made part of university culture. The culmination of this process is the recent establishment of a one-stop shop for innovation management and administration, and regularized competitions for students and researchers, for which the EKIK will also provide micro-investment and professional mentoring for the winners. According to the university's plans, in the next 2 years they will create 10 companies and start-ups, partially in medtech, with adequate mentorship and seed funding to nurture the ideas of researchers and students, not only for scientific but also for business purposes, in cooperation with other institutions.

Turning engineering knowledge in the service of the common good

The wide coverage of medical engineering research topics is supported by numerous publications coming from Óbuda University, having a few cited for example [2-12]. Good examples include the integration of robots into actual healthcare processes, which is an extremely complex challenge. In addition to technical implementation, EKIK also works in parallel with international standardization organizations (ISO, IEC, IEEE) to enable the professional community to develop appropriate safety and performance standards and recommendations. Another success story is that a company that manufactures orthopaedic implants wanted to develop a robot

for use in spine surgery, and teamed with the university, from which a joint project and medtech system development started in a very short time, now targeting a pre-clinical version (koellner-medical.com).

It was within the EKIK where the idea of developing a mass ventilator system (MassVentil - massventil.org/) was incepted, together with the university's John von Neumann Faculty of Informatics, in line with the strategic direction of cyber-medical systems R&D. The MassVentil concept can be used to supply ventilation and oxygen to a large number of critical condition coronavirus patients, up to 5, 10, 20, or even more at the same time, even outside regular hospital settings. The MassVentil Project was initiated as a charity, non-profit project by the experts of EKIK, later licensed to a leading Hungarian medtech company for commercialization. This example also shows that the EKIK and Óbuda University have grown into internationally recognized bioengineering center.

All of these examples illustrate how diverse and effective results can be generated by incorporating medtech innovation into the core university infrastructure in a number of seemingly distant segments, and it is likely that technical universities as creative think tanks will continue to be the focal points of these positive processes. ■

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Bios:



Prof. Dr. habil. Levente Kovács graduated in electrical engineering from the Technical University of Timisoara in 2000 and received his MSc in public health engineering from the Budapest University of Technology and Economics (BME) in 2011. He received his PhD in 2008, also from BME. His research interests are mainly in the areas of modern control theory and physiological regulation, where he has published more than 450 international journal articles and refereed international conference papers. His cumulative impact factor is above 100, his h-index is 24. Currently, since 2019, he is the Rector of Óbuda University, formerly Deputy Rector for Education, and Professor at the Faculty of Computer Science of Neumann János. He habilitated in 2013 with excellent result. He is a regular member of the Doctoral School of Applied Informatics and Applied Mathematics and of the University Doctoral and Habilitation Council, and head of the Knowledge Centre for Life Science Controls. He is also a member of the Biomedical Panel (TC 8.2) and the Control Engineering Education Panel (TC 9.4) of the International Federation for Automation (IFAC) and since 2010 of the Hungarian Diabetes Society. In 2015 he was the winner of the ERC StG, the most competitive research grant in the EU.



Dr. Tamás Haidegger received his engineering degrees from the Budapest University of Technology and Economics MSEE and MSBME, then PhD in medical robotics. His main fields of research are medical technologies, control/teleoperation of surgical robots, image-guided therapy, and digital health technologies. Currently, he is associate professor at Óbuda University, the director of the University Research and Innovation Center, and the technical lead of medical robotics research. Besides, he is a research area manager at the Austrian Center of Medical Innovation and Technology (ACMIT), working on surgical simulation and training. He is an active member of the IEEE Robotics and Automation Society (serving as an associate VP), IEEE SMC, IEEE EMBC, IEEE SA and euRobotics aisbl, holding leadership positions in the IEEE Hungary Section as well. He is co-Editor-in-Chief of Acta Polytechnica Hungarica and Associate Editor to the IEEE Trans. on Medical Robotics and Bionics, the IEEE Robotics & Automation Magazine. He is senior member of IEEE and Bolyai Fellow of the Hungarian Academy of Sciences. Dr. Haidegger is the author and co-author of over 250 scientific papers, books, articles across the various domains of biomedical engineering, with over 1,500 independent citations to his work. He has been running a professional blog on medical robotic technologies for 15 years: <http://surgrab.blogspot.com>.



A vision for the hospital of the future?

david labeau,
assar architects
architect partner,
healthcare director



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The evolution of models throughout the last century obliges us to remain humble and measured in our comments about the future... We can, however, determine that in each era hospitals have been a reflection of society.

The hospital of the 21st century needs to be in the image of our current, modern world in terms of the best it has to offer – participative, ecological, and connected – in other words, respectful of the environment and open to the latest technological trends, while retaining the human dimension at the centre of its design.

A hospital in the image of the medicine of the future

The world of healthcare and medical practice has experienced profound changes in recent decades, responding to the new needs of populations and the expectations of patients.

For centuries, in Europe, medicine has been marked by a “curative” approach which has enabled an increase of fifty or so years in life expectancy for the sick during the 20th century. We are now in the era of the medicine of the “4Ps”: medicine that is personalised, preventive, predictive, and participative.

The relationship between practitioners and patients is changing, moving from a “paternalism” towards a “partnership.” This participative and co-operative approach is also found in the collective ‘intelligence’ deployed by practitioners – multidisciplinary and transdisciplinary teams are emerging in the hospital, as well as in patient management at home.

This communication and collaboration are at the heart of the design process in hospital projects. We are now part of a participative approach, working hand in hand with the project owners, in order to construct flexible projects in partnership, and to respond to the most current needs.

A hospital that respects its environment

This aspect of respect, which may initially seem self-evident, needs to be viewed from two different angles.

On the one hand, at the local scale, any hospital project has its place in a specific location that must be taken into account in the context of the design, and must be respected.

On the other hand, in an overall, global context, a hospital requires a great deal of energy in

order to function, and its environmental impact is therefore significant, but its capacity to make substantial savings is no less great. The design of a hospital project in the 21st century therefore entails the consideration of sustainability.

While there is much one could say on this subject, we limit ourselves to here reference to the ‘green hospital’. Its definition is derived from a conceptual working methodology. The objectives sought, defined from the outset of the project, between project owner and project management, relate to the reduction of the ecological footprint of the building as much as the well-being of its users. It involves creating a tool for work and for life, that can adapt to developments in needs and in technologies.

A digital hospital at the service of humanity

Any hospital project is now dependent upon the management of data and flows of information, and the digital hospital is thus a paradigm for the starting point.

We aim to design a “smart hospital” which is connected, and intelligent, which is not the master, but the servant of its users, which accommodates and protects its occupants. The smart

hospital is central and must interact with the smart city in terms of mobility, energy, and waste management.

Technology will never replace human interaction in the key moments, it is not an end but a means. This digitalisation offers professionals greater efficiency in their routine tasks by reducing unnecessary actions. The exploitation of these technologies is a lever for a greater quality of service for all users – patients, personnel, visitors... It is necessary to orient the design of the digital hospital towards a “user-friendly” approach – centred on the patient and committed to the well-being of personnel.

Through these non-exhaustive examples, we hope to reflect on the nature of a hospital that is capable of responding to the challenges of our time. However we refuse to give in to trends that are praised today, only to be denounced tomorrow, with a view to reflecting upon solutions that are liable to transcend time and place.



BIOMÉRIEUX PARTNERS WITH EAHM ON INFECTION MANAGEMENT

by Claude Mabilat, PhD, Director at Global Medical Affairs, bioMérieux
(contact: claudemabilat@biomerieux.com)

Hospital systems must adapt to the world's constant changes: aging populations, rising chronic diseases, increasing healthcare costs, new medical technologies, exploding data, as well as outbreaks and epidemics of emerging diseases, such as Covid-19.



FIGHTING AGAINST ANTIMICROBIAL RESISTANCE

Meanwhile, a silent or “slow-moving” pandemic continues to advance, that of antimicrobial resistance (AMR). A study recently published in the Lancet has sounded the alarm at the global level¹. AMR is responsible for 1.7 million direct and 5 million indirect deaths in the world every year. These figures are much higher than the previous estimates.

The latest European study estimates the death toll related to AMR to be 33,000 deaths a year^{2,3}, mostly due to healthcare-acquired infections (HAIs). This costs the health care systems of EU/EEA countries about EUR 1.1 billion per year⁴. Drug-resistant infections are undermining modern medicine by putting at risk life-saving interventions, such as surgeries, chemotherapies, transplantations⁵...

As championed by many organizations including the European Union (EU), national AMR action plans include reinforcing Infection Prevention and Control (IPC) and promoting prudent use of antibiotics, often referred to as “antimicrobial stewardship” policies (AMS or ASP). In practice, for hospitals, this translates into preventing the spread of multidrug-resistant organisms in wards and providing the most appropriate antibacterial therapy.

To achieve this, timely and accurate diagnostic tests play an essential role in optimizing the patient care pathway for clinicians, patients, and healthcare systems.

- ➔ **For clinicians**, diagnostic test results provide clear objective information, which may help them to confirm a diagnosis and support clinical decision-making for targeted antibiotic therapy.
- ➔ **For patients**, this results in improved outcomes, a higher level of safety and satisfaction as well as a faster recovery.
- ➔ **For healthcare** systems, diagnostic tests can help reduce costs, lengths of stay and 30-day readmissions, all of which are critical to hospital systems' budgets, quality systems, and public image.

As a worldwide leader in *in vitro* diagnostics, **bioMérieux is pleased to announce a new partnership with the European Association of Hospital Managers (EAHM)**.

We are convinced that working with European hospital managers can help shape more resilient healthcare systems through the dissemination of evidence-based innovations and services, and by supporting antimicrobial stewardship and infection prevention practices adapted to local needs.

In practice, we will have the opportunity to inform EAHM members about the value of diagnostics to support AMS and IPC initiatives, exchange with members on topics of mutual interest, cross-reference events and educational materials.

As an introduction to our contribution, we hope the following pages will demonstrate how diagnostics can help sustain antibiotic efficacy for future generations.

You can learn more by visiting www.biomerieux.com.

DIAGNOSTIC TESTS ARE INSTRUMENTAL FOR ANTIMICROBIAL STEWARDSHIP PROGRAMS

Diagnostic tests have an impact at both individual and collective levels, by contributing to the protection and the improvement of public health and the reduction of healthcare costs.

As a world leader in *in vitro* diagnostics, bioMérieux has been committed to the fight against infectious diseases for more than 55 years. Combating resistance to antibiotics lies at the heart of the Company's global public health mission.

bioMérieux's unique and comprehensive range of diagnostic solutions support antimicrobial stewardship for the responsible use of antibiotics to improve patient care. They are also useful for the implementation of epidemiological surveillance programs through the consolidation of microbiological data at hospital, country and global levels.



Does the patient need antibiotics?
If so, which one?



Can the antibiotic prescription
be optimized?



When can the antibiotic treatment
be safely discontinued?

ROLE OF DIAGNOSTIC TESTS

Confirm bacterial infection and identify the causative pathogen to ensure optimal patient outcomes and avoid unnecessary antibiotic use.

Determine a pathogen's resistance profile to select the most appropriate treatment, limit use of broad-spectrum antibiotics and avoid adverse side effects.

Monitor patient response to personalized treatment duration and discontinue antibiotics as early as possible.

BIOMÉRIEUX'S
TECHNOLOGIES
TO SUPPORT
MEDICAL DECISIONS
AND SERVE
PUBLIC HEALTH



IMMUNOASSAY



MOLECULAR BIOLOGY



MICROBIOLOGY

LAB INFORMATICS



to provide actionable results and consolidate data

EPIDEMIOLOGICAL SURVEILLANCE, PREVENTION AND INFECTION CONTROL SOLUTIONS to avoid outbreaks and limit the spread of resistance

FIGHTING ANTIMICROBIAL RESISTANCE

IS EVERYONE'S CONCERN



OUR COMMITMENT

INNOVATION

- ➔ 75% of bioMérieux's clinical R&D budget is dedicated to developing effective diagnostic tests to combat antimicrobial resistance.

EDUCATION AND AWARENESS

- ➔ for healthcare professionals: we offer a number of medical education resources to inform laboratorians, physicians pharmacists, nurses
- ➔ for hospitals: we support antimicrobial stewardship programs through EU advocacy
- ➔ for patients and the general public: we raise awareness of the AMR issue and antibiotic use through infographics and social media activities.

SURVEILLANCE

- ➔ bioMérieux is the only private partner of the Global Point Prevalence Survey (GLOBAL-PPS) managed by Antwerp University (Belgium). This unprecedented study of antibiotic consumption and microbial resistance in hospitals worldwide provides data that are instrumental when implementing antimicrobial stewardship programs.

PUBLIC/PRIVATE PARTNERSHIPS

- ➔ bioMérieux is co-leading a consortium (26 partners) to carry out the VALUE-Dx project which aims to demonstrate the medical and economic value of diagnostics to combat AMR by optimizing antibiotic use. This project is EU-funded through the Innovative Medicines Initiative (IMI) joint undertaking.
- ➔ We are actively participating in the AMR Challenge initiated by the US Centers for Diseases Control (CDC).

WORKING WITH INTERNATIONAL ORGANIZATIONS

- bioMérieux is:
- ➔ a signatory to the declaration on antimicrobial resistance at the 2017 World Economic Forum in Davos (Switzerland),
 - ➔ a representative of the diagnostics industry on the AMR Industry Alliance's Board,
 - ➔ a voting member of the Presidential Advisory Council on Combating Antibiotic- Resistant Bacteria (PACCARB),
 - ➔ a leading member of the AMR working group of both European and US medical technology associations (MedTech Europe and AdvaMed)
 - ➔ the leader of the French «Antibiorésistance» project of the Industrial and Governmental Health Strategy Committee.

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3 This estimate will be updated in 2022

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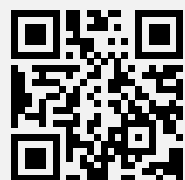
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Front row, from left to right: Philippe BLUA (Director General of the HCS) and Pierre KOCH (Director UTT)

Second row, from left to right: David LAPLANCHE (Medical Scientific Director of the ISTT), Abéline MOREAU (Director of Partnerships at ISTT), Valérie FRIOT-GUICHARD (Deputy Director General of the HCS), Michèle COLLART (Medical Chair of the HCS group), Jérôme PLAIN (Deputy Director of UTT), Farouk YALAOUI (Director of Research at UTT), Farah CHEHADE (Scientific and Technological Director of the ISTT) and Alexandre BAUSSARD (Director of Partnerships at ISTT).

Launch of the Institute of Health and Technologies of Troyes



The Champagne Sud Hospitals (HCS) and the University of Technology of Troyes (UTT) have a long-standing collaboration in data processing and operational research projects under an agreement signed in 2015.

It all started with a living lab project on ageing, which obtained European funding. By accessing 15 years of hospital data, the UTT has used its expertise to develop models, to learn sustainable uses or to optimize logistics flows.

This collaboration was strongly accentuated by the set of doctoral works in 2014 and the will to work on the management of organizations with a complementary objective of clinical research initiated by the medical community together with the unit of clinical research and research in care of the Hospital of Troyes. This close collaboration helped establish a University Diploma in Information Systems and Logistics in Hospitals between the UTT and the HCS.

On November 22, 2021, the Institute of Health and Technologies of Troyes (ISTT) was officially launched. It aims to federate actors working in the field of health. The ISTT brings together multidisciplinary themes in close connection with applied mathematics, computer science, physics, human and social sciences, management and the field of health. Its missions are multiple: to stimulate the scientific community in the area of health technologies, to structure health activities and strengthen visibility, to promote the development of partnerships, to identify innovative projects, to help develop technological solutions for health, to modernize

the health system and to strengthen the attractiveness of these fields of study.

The themes will be Independence and Ageing Well, Prevention of illness and Health Promotion, Patient Journey, Organization and Logistics of Health Establishments and Risk Management and Safety.

The Institute aims to create an innovative ecosystem of national and international recognition by offering a centre of excellence in research and teaching for Health and Technologies. It will support the development of socio-technological tools essential to biomedical progress and to the support of clinicians, health establishments and patients.

The ISTT gives a common and clear identity to the collaboration between the HCS and the UTT. It is a simple and identified entry point to our expertise, our projects and our ambition to be at the forefront of developments in health and the digital transition. It is a part of European issues and of local responses. The Institute is open to any actor in the world of Health who wishes to join it.

The ISTT has been admitted as a new associate member of the European Association of Hospital Managers (EAHM) from 2022. This membership follows a collaboration already initiated in 2021 between the EAHM and the UTT, in particular with the production of a certain number of Webinars on topics related to health technologies and hospital management. EAHM was also centrally involved in the SHeIC conferences in 2020 and 2021. The creation of the ISTT and its membership of the EAHM mark a new stage in this collaboration, which is intended to intensify. ■

CLINALYTIX:

intelligence within the patient record

Companies in the healthcare sector are constantly exploring new initiatives. Artificial intelligence, however, and specifically its use as a tool to assist healthcare professionals in caring for their patients, is still an emerging topic. The cross-disciplinary team developing clinalytix, Dedalus's range of artificial intelligence products, has been working on this project for years. The team focuses on cases where the patient's chance of recovery, or the speed of the recovery, increase when their condition is detected early, which often also eases the caring process.

Every 2.8 seconds, a healthy person dies from sepsis around the world

Sepsis kills one person every 2.8 seconds and seemed a natural fit for designing a detection model.

COVID and the rising number of patients suffering from acute kidney injury

Acute kidney injury might have several different causes, including COVID-19 and sepsis. The extent to which risks and consequences can be reduced for the patient largely depends on the time it takes before the patient is able to receive care. Preventing acute kidney injury is a priority, in particular to lower morbidity and mortality rates and to reduce resuscitation costs. Our model has proved capable of detecting this condition at least one day earlier than a human professional would.

Detecting delirium and proactively preventing delirium mortality

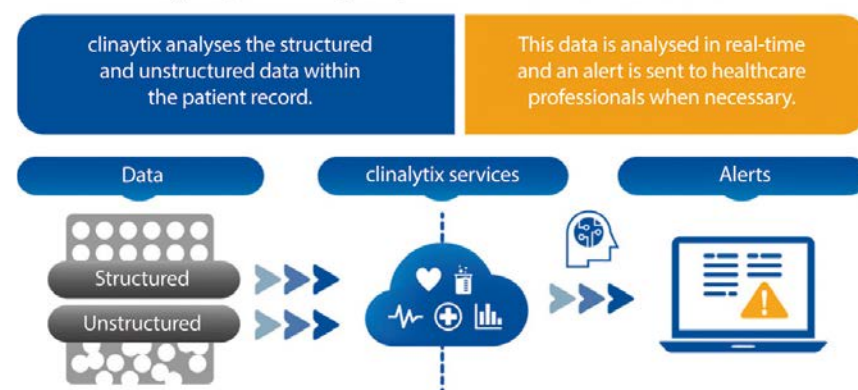
The delirium prediction model was the first model to be developed and to produce accurate results. Since proactive intervention reduces delirium by over 30% and severe delirium by over 50%, the use of such a prediction model could be instrumental in deciding when to intervene. In Germany, delirium is officially considered one of the leading medical causes of mortality.

Clinalytix

We have adopted an evolutionary approach to developing risk prediction methods. The use cases we have selected for developing such methods are delirium, sepsis and acute kidney injury. We are also already exploring use cases for future prediction models.

Given the shortage of staff in healthcare institutions, the decreasing amount of time devoted to patients and insufficient analysis of ever-increasing amounts of data produced by medical devices, artificial intelligence systems such as clinalytix are becoming essential so as to reduce healthcare professionals' cognitive load and to improve patient care. We intend to make our solution increasingly available for healthcare institutions regardless of the electronic health record they use. Our aim is to incorporate artificial intelligence into electronic health records to the greatest possible extent, in order to improve patient care.

clinalytix, an integral part of the Dedalus solutions



The 24th HHSMA's annual hybrid congress in cooperation with the EAHM in Athens

The 24th HHSMA's annual hybrid congress in cooperation with the EAHM will take place in Athens, on 13 - 15 October 2022 at the Hellenic Pasteur Institute

The congress, titled "Anticipating the Next Crisis in Healthcare", includes the thematic sessions:

- (a) National & European Union Preparedness
 - (b) Acquiring Sufficient and Specialized Staffing in Healthcare Facilities
 - (c) PHC: Strengthening the Front Line
 - (d) Addressing the Mental Health Crisis
 - (e) Big Data, AI, IT: How they Work Together?
- And a seminar about "DRG in Europe".

The international part of congress, only in English, will be held on Friday, 14th October 2022.

The conference will be broadcast online and will be recorded and available on-demand, after some days, on the HHSMA's YouTube channel.

The congress' core content is to convey the message that we know that there is a number of possible future crises, but, hopefully, we will use this CoViD-19 crisis' experience to rebuild and produce something better for people's health.

On Saturday morning, 15th October 2022:
tour at the Hellenic Pasteur Institute & Workshop with bioMerieux.



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Discussion between Florence de Thier and François Lafont, CEO

Luxembourg is bubbling over with new ideas. With its key economic sectors energised by a concentration of research and innovation, it is well-suited to host congresses. From biomedicine and satellites to high-speed computing and automotive components, Luxembourg is brimming with expertise and creative thinking in many fields.

“We were created when organisers and partners expressed the need for a one-stop shop for help setting up and running events and congresses in Luxembourg. In response, the government and the City of Luxembourg jointly decided to create our organisation to function as an events intermediary for congresses and conferences.”

Luxembourg is a place where the success of congresses and conferences is facilitated by the proximity of skilled and influential people. In addition, Luxembourg is home to world-class research institutes, high-tech companies, and one of the best young universities. This gives the country major advantages.

But how does Business Events Luxembourg work in practice?

To ensure the success of your event, Business Events Luxembourg will do its utmost to put you in touch with

the right people, particularly local experts and key players in your sector. In addition, the team strives to find you the best event organisers, service providers, and all the people you need to make your congress or conference a success and have the desired impact. Business Events Luxembourg is a **not-for-profit organisation** and therefore provides free resources, information, and support for those planning business events including meetings, conventions, and conferences. It receives an endowment from the Ministry and the City which enables it to offer its services as part of an attractiveness policy. Its advice is impartial, experience-based, and free of charge.

Organising an event requires efficient management of resources, unparalleled logistics, and an excellent sense of timing.

“We work on four main areas. First among them is the **strategic** aspect. We have knowledge of what is going on outside the country in terms of events, congresses, and meetings, so we can help set up the same types of projects, develop them, or advise against doing them. We also have a **facilitating role** that goes well beyond the event framework.



For example, in hospitals, there is an issue with nurses' trolleys. It is difficult to plan the management of the stock contained in these trolleys in relation to the path to be taken. We have seen that aircraft manufacturers have exactly the same problem: the trolleys have now been digitised. We had already heard about this problem in the space industry. So we put the two industries in touch, recommending the services of a specific speaker, thereby playing a bridging role.

We also play an **expert role** while being perfectly aware that we cannot be experts in all fields. However, we do have to acquire the expertise needed for each project.

Our last role is that of communicator, which is intrinsically connected to the media part. We try to make the link between external people such as organisations, experts, and so on.

The basis of a meeting, a conference, or a congress is the human exchange, the exchange of knowledge, the exchange of goods and materials. We promote the dissemination of this knowledge. The LCB serves the dissemination of information and content, a bit like the press but in a more interactive way.

Business Events Luxembourg was created in 2019 and employs a team of seven full-time staff.

Are you organising an event in Luxembourg?

Find the perfect venue, hotel, transport, event agencies and event service provider, tailored to the needs of your business event. View all the options to support your events in Luxembourg on one list. Choose your event requirements, browse the search results, shortlist and compare a selection of venues, accommodation, transport, event agencies, and services to meet your business event needs.

“Two people work on what we call the ‘associations’ sectors, another works on the corporate market, i.e. companies, one person works with partners, one person does the monitoring, and another handles communication and marketing. I am in charge of coordinating the team.

The first of the sectors most concerned is the medical sector. This makes sense to me because the culture of hospitals and nursing staff has been based on data exchanges and exchanges with learned societies for years.”

The first medical congress was held in the Middle Ages! There was already a need for exchanges and information at that time.”

IN CONCLUSION, WHAT IS FUNDAMENTAL IS THE HUMAN EXCHANGE. EXCHANGE IS A CULTURE, AND LUXEMBOURG IS AN IDEAL COUNTRY TO CULTIVATE IT.

Some of the free services offered by Business Events Luxembourg

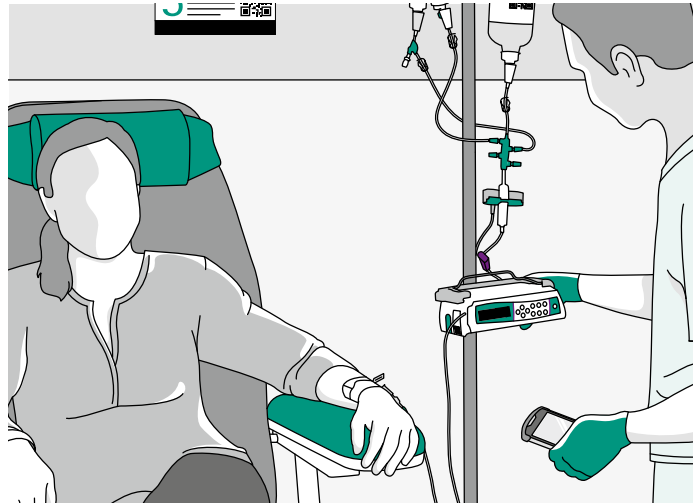
- Impartial help in finding venues
- Assistance with tenders for international meetings
- Assistance with site inspections
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Oncological therapy with OncoSafety Remote Control®

Safe and transparent application of chemotherapeutics



The administration of oncological drugs demands nurses' utmost concentration, but the ever increasing workload means that mistakes can and will nonetheless happen – with potentially severe consequences for the patients. The OncoSafety Remote Control® System standardizes the workflow, improves documentation, allows a simplified analysis of therapy data and establishes an additional safety net for health care staff.

„In my opinion, our old treatment protocol for the administration of chemotherapeutic drugs was just messy“, says Clara Pujol, specialist oncology nurse at the Hospital de la Santa Creu i Sant Pau in Barcelona, Spain. The therapy was prepared by the pharmacy, the only control mechanism employed was the patient name, and the instructions regarding the administration were written by hand, “which led to many dose and administration errors”. There was no specific registration protocol for the administration, and if the patient showed side effects, they were only noted down by hand. If a member of the nursing staff did not know the different chemotherapeutic protocols by heart, they had to call the hospital pharmacy, resulting in delays.

Multiple digital security controls

Today, the hospital pharmacy is in charge of the preparation of chemotherapeutics, and thanks to the OncoSafety Remote Control® system, a number of security controls are in place before administration to the patient. What does this look like in daily nursing practice? “The patient is called in and takes a seat in the treatment unit. At this time we confirm that it is the correct patient by checking their name and scanning the code on their bracelet”, explains Clara Pujol. The documentation process is completed by the scanning of both the nurse’s QR code and the barcode of the treatment unit.



After connecting the infusion set, the nurse's PDA ('personal digital assistant', a portable computer) guides them through all the necessary steps; the scanning of the barcode on the infusion set ensures that the correct pump and the closed infusion system is connected with the correct patient and that the correct patient-related data are recorded. The respective patient-individual medication, such as co-medication or chemotherapeutics (oral or peroral) is also scanned before the respective active administration. The type of access (e.g. port or intravenous catheters) is chosen on the PDA, after which the data can be transferred to the infusion pump via confirmation on the PDA. Further advantages: “The PDA allows us the immediate documentation of side effects. In addition, we can also call up every information about the patient and the administration of the chemotherapy on the ward screen.” And: All information regarding dose, infusion duration, events or adverse effects are transmitted electronically to the pharmacy, guaranteeing a complete documentation.

Higher satisfaction of staff, patients and relatives

Clara Pujol can only see advantages to this system. “The entire process of administering chemotherapy operates a lot more orderly, transparent and flexible now. For instance, we can add drugs electronically if necessary, and we also have a better control about what has been administered and what hasn't.” Even new staff members have no problem swiftly acquainting themselves with the system.



ABOUT THE AUTHOR

Dr Lydia Unger-Hunt MD is a freelance medical journalist and translator from Vienna, Austria. She now lives near Brussels, Belgium.

Contact: lydia.unger@gmail.com



Clara Pujol scanning the barcode of a cancer patient before administering the therapy

Another important issue is the “much better” safety, mirrored in a correspondingly high staff satisfaction. “We used to be under a fair amount of stress regarding chemotherapeutics, simply because we are well aware of the potentially severe consequences any error can have. The new system with its improved safety allows all of us to work in a much more relaxed atmosphere.” Furthermore, using a PDA has sped up the entire process, and the time gain is much appreciated by all – including the patients and their relatives, as the better planning calculability supports the punctual administration.

Hassle-free professional support

And how did the team experience the changeover? The professional support delivered by B. Braun “was always available. When questions arose, we were able to reach our contact partners at any time, night or day – any problem was solved within a week at the most”, says Ms Pujol. The Spanish nurse thinks that older staff might have needed a bit more time for the switch than younger ones, but all members of staff now prefer the new system. “Let's put it this way: It has become extremely difficult for us to make an error during the administration of chemotherapy”, is her conclusion.



If you want to find out more about OncoSafety Remote Control®. Please scan the QR code or visit: www.bbraun.com/oncosafety



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Roll-out of Luxembourg's eHealth services continues at a steady pace

Agence eSanté, Luxembourg's national eHealth competence, has reached yet another of its roadmap's milestones: the national roll-out of the Carnet de Vaccination Electronique (CVE), the electronic vaccination record. The 2012-2021 time-period has included many major milestones for the country. Several more landmark achievements are in store from 2022 onwards.



2021's launch of a new eHealth service

2021's activity involved the national roll-out of the *Carnet de Vaccination Electronique* (CVE), the electronic vaccination record. The roll-out follows on from the successful pilot phase initiated in April 2021, in which some 30 volunteer healthcare professionals took part.

Since early December 2021, the CVE is successively rolled out amongst paediatricians, general practitioners, gynaecologists, occupational physicians, and eventually all other remaining vaccine providers. Meanwhile, more than 3,800 CVEs have been created, containing altogether more than 13,000 vaccination entries.

The launch of this new eHealth service brings added value to healthcare providers, patients, and public health services. It provides an online and thus easily accessible up-to-date view of a patient's immunisation status. Thanks to the automated registration of administered vaccines, it takes away the administrative burden from healthcare providers and enables the automatic generation of notification messages for vaccinations that are due. Furthermore, because the CVE platform is managed centrally on a national level, it gives the country's public health services an accurate view of the immunisation coverage and facilitates vaccine management on a national level.

A decade of achievements

The CVE is just one of the eHealth services Agence eSanté has put in place since its establishment in 2012.

In 2014 was launched the first, major eHealth tool, the eSanté platform, the cornerstone for all eHealth services that followed later. This national common interoperability platform covers two major components that are indispensable for the identification and authentication of eSanté services' users, and for the secure and data protection compliant sharing of healthcare data:

the Master Patient Index and the Healthcare Provider Directory. The eSanté platform is the central national eSanté services' entry point. All the information systems used by independent and institutional healthcare providers connect to it.

2015 saw the achievement of a second major milestone of Luxembourg's national eHealth roadmap: the pilot launch of the Dossier de Soins Partagé (DSP), a patient's electronic health record. Initially foreseen to last for one or two years, the pilot phase ended only in 2019 due to the lack of a national law that enabled the general roll-out to all persons affiliated to Luxembourg's social security. When this law came into force on January 1st, 2020, it kick-started the DSP's general roll-out, which was completed by the end of December 2020, despite the challenging COVID-19 situation.

Over time, both the number of DSPs and documents has evolved substantially. DSPs and their uploaded documents have increased 15-fold. At the pilot phase's close, in total 59,138 DSPs had been created containing altogether some 314,281 documents. Meanwhile, the number of DSPs has grown to more than 941,000, with over 5.8 million documents. The accompanying increasing use of the DSP will be furthered, once artificial intelligence tools allow active use of the DSP's data for preventive and predictive purposes, as well as for personalised healthcare.

Immediate, next steps

Encouraged by this positive development, Agence eSanté's team continues steadily its activities on the other eSanté services in store. The next milestone to reach is the roll-out of electronic prescriptions, both on a national level and in the context of the cross-border electronic exchange pursued by the Connecting Europe Facility (CEF)-funded European project MyHealth@EU.

**SOINS CRITIQUES
ET CRISE SANITAIRE**

Quels enseignements organisationnels au niveau européen ?

16 juin 2022 - Paris



PROGRAMME

Animation: Pr. Katharina Janus, Center for Healthcare Management

9h45	ACCUEIL CAFÉ
10h30	OUVERTURE <ul style="list-style-type: none"> • Stéphane Pardoux, Directeur général de l'Anap, France • Philippe Blua, Président de l'Association Européenne des Directeurs d'Hôpital (AEDH), France
10h45	INTRODUCTION Pr Katharina Janus, PDG du Center for Healthcare Management, France
10h50	KEYNOTE «SOINS CRITIQUES EN EUROPE : VERS UNE DÉFINITION COMMUNE» Valérie Paris , Membre du Collège de la Haute Autorité de Santé (HAS), France
11h00	TABLE RONDE «ADAPTER L'OFFRE DE SOINS CRITIQUES AUX BESOINS : APPROCHES ACTUELLES ET FUTURES DANS L'UNION EUROPÉENNE» <ul style="list-style-type: none"> • Pr Marc Leone, Chef de service d'anesthésie et soins critiques, Hôpital Nord, AP-HM, CHU de Marseille, France • Pr Gernot Marx, Directeur de la Clinique de médecine soins intensifs chirurgicaux du CHU d'Aix-la-Chapelle, Allemagne • Dr Michael Power, Médecin Consultant à Beaumont Hospital, Irlande • Pr Maurizio Cecconi, Chef de Service d'Anesthésie et Soins Critiques à l'Istituto Clinico Humanitas Milan, Italie

Conference only in french

12h00

**TABLE RONDE «REPENSER L'ORGANISATION
DES ÉQUIPES DE SOINS CRITIQUES»**

- **Pr Olivier Joannes-Boyou**, Chef de Pôle anesthésie-réanimation du CHU de Bordeaux, France
- **Pr Ralf Kühlen**, Médecin en Chef à HELIOS Health GmbH, Berlin, Allemagne
- **Dr Leticia Moral**, Médecin en chef, Directrice santé et qualité à Quirónsalud, Madrid, Espagne
- **Pr Jean-Paul Mira**, Chef de service de réanimation à l'hôpital Cochin, AP-HP, France

13h00

COCKTAIL DÉJEUNATOIRE

14h00

**TABLE RONDE «VERS UNE COLLABORATION EUROPÉENNE
EN SOINS CRITIQUES ?»**

- **Pr Pierre Albaladejo**, Service d'anesthésie et soins critiques au CHU Grenoble, France
- **Pr Julien Pottecher**, Chef de service d'anesthésie-réanimation et médecine péri-opératoire à l'hôpital de Hautepierre, CHU Strasbourg, France
- **Dr Myriam Combes**, Directrice de la Stratégie et des Relations Médicales chez ELSAN, Paris
- **Dr Laurent Heyer**, Responsable du projet «organisation des soins critiques» de l'Anap, France

15h00

SYNTHÈSE DE LA CONFÉRENCE

Pr Katharina Janus, PDG du Center for Healthcare Management, France

15h15

CONCLUSION

- **Marc Hastert**, Secrétaire général chez l'Association Européenne des Directeurs d'Hôpitaux (AEDH), Luxembourg
- **Stéphane Pardoux**, Directeur général de l'Anap, France

**UN ÉVÉNEMENT ORGANISÉ DANS LE CADRE DE
LA PRÉSIDENTIE FRANÇAISE DU CONSEIL DE L'UNION EUROPÉENNE***

**Cet événement n'est pas organisé par le Gouvernement français.*

Il est cependant autorisé par celui-ci à utiliser l'emblème de la présidence française du Conseil de l'Union européenne

TO ENSURE THE HIGHEST SAFETY LEVEL OF MEDICINES FOR LUXEMBOURG CITIZENS

Interview with Sonia FRANCK, secretary general of IML (Innovative Medicines for Luxembourg - the association of the innovative pharmaceutical industry) and president of LMVO.



Florence de Thier (Fdt) : Can you explain us what LMVO is and what are its objectives ?

Sonia Franck (SF) : LMVO is the abbreviation of Luxembourg Medicines Verification Organisation. This association was created by the actors of the drug chain (Manufacturers, Wholesalers, Distributors, Pharmacists and Hospital Pharmacists) under the impulse of the European legislator in order to fight effectively against the falsification of medicines.

Since 2019, LMVO is responsible for the implementation and management of the drug verification system in Luxembourg. Ensuring the safety of patients is of the utmost importance and the different actors in the field of medicines have come together with the health authorities to develop an unprecedented system to guarantee the quality and the origin of the medicines delivered to each patient.

FdT: Who initiated this project?

SF: It is the pharmaceutical industry with the support of the European legislator. You should know that in Asia and South America, there are a lot of falsified medicines. Some prescribed medicines are very expensive, so it is very tempting to falsify.

The European legislator has therefore wished to protect the patient by setting up a system to fight effectively against the risks of counterfeiting. The European directive dates from 2011.

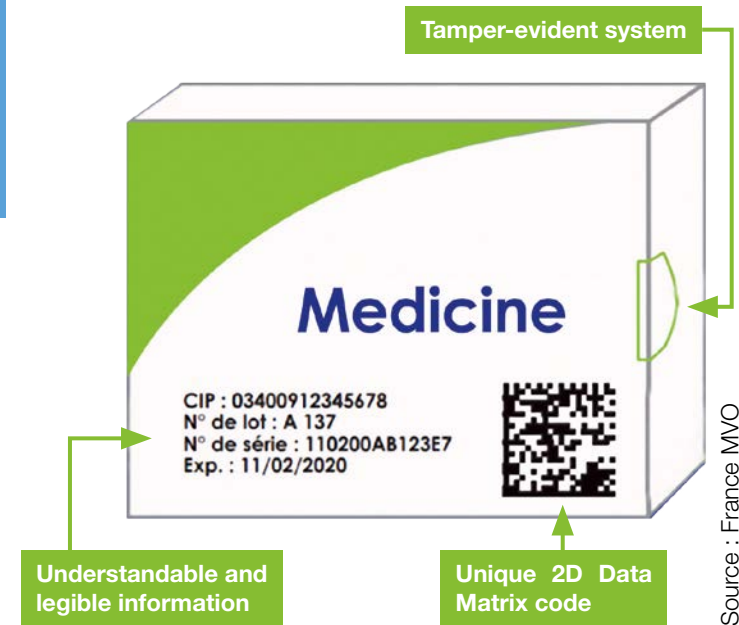
FdT: Are there many falsified medicines in Europe?

SF: What we want to avoid is that there are. We can't say that there are none, but the idea of this regulation is that there are none!

In Luxembourg, to date, no counterfeit medicine has been detected in the pharmacy circuit, which is already very secure. The legal supply circuit is based on a solid, tested and inspected system in order to guarantee the quality and safety of medicines delivered to patients.

FdT: But how does it work in practice?

SF: The first security is Pharma serialization. Pharma serialization is assigning a unique 2D Data Matrix code to the packaging of each drug and printing this code on the packaging. This serial number gives information such as the origin of the product, the production batch, the expiry date, and more. Each box has its own serial number. When a box leaves the pharmaceutical company, its serial number is loaded in a database and the pharmacist scans the box upon delivering it to the patient. Not only to get the price but also to ensure this unique serial number corresponds to a number loaded in the database and not yet used for another box.



The second security is that on each box of medicine subject to prescription, there is a tamper-evident system - a kind of sticker that closes the packaging and cannot be reattached -, allowing for visual verification of the integrity of a drug box.

FdT: This Directive has had to affect the established processes?

SF: Yes, it required major changes in the production lines of pharmaceutical companies to implement all this new packaging. In addition to changes in physical packaging processes, data management of those companies had to evolve to create, store, detect and transmit millions of serial numbers into a central database.

For Luxembourg, it is a database that is shared between Belgium and Luxembourg to split the costs.

This represented a cost for the industry but not only for it. Imagine the hospitals and pharmacies that receive thousands of boxes that they have to decommission. This involves special scanners, but also trained and educated staff, so there is an indirect cost as well.

FdT: Is it still possible to falsify?

SF: It is not possible to falsify in the pharmacy and hospital pharmacist circuit (normal circuit) because they are obliged to check this and if a potential alert of falsification is triggered, they must report it. They report this alert to the control authority, the Ministry of Health, that has to take a decision.

FdT: How many members does LMVO have?

SF: LMVO brings together the manufacturers and Marketing Authorization Holders (MAHs) of medicines with safety features (IML, BACHII, BAPIE, Medaxes), the wholesalers (GGPPLR), the pharmacists and hospital pharmacists (APHL, SPL), the hospitals (FHL) and national competent authorities (DPM). All in all, those are all the actors in the medicines delivery chain.



WINNERS OF 2021 EAHM INNOVATION AWARD
DURING THE SHeIC

Winners of 2021 EAHM Innovation Award during the SHeIC

After a break due to the Covid-19 crisis, EAHM was pleased to announce the winners of the 2021 edition of the "Innovation Award" during the SHeIC (Smart Healthcare International Conference) in Troyes on the 3rd December 2021. For more information about the four projects, please consult the EAHM Website. The next edition of the EAHM Innovation Awards will take place in 2023. Details of this process will be announced shortly.



*First Prize
Implemented project*



*First Prize
Not yet
implemented project*



*Second Prize
Implemented project*



*Coup de Cœur Prize
Implemented project*

DELABIE's Healthcare Solutions

For over 90 years DELABIE, Europe's leading manufacturer in water controls and sanitary fittings, has provided specialist solutions for healthcare facilities and retirement homes. Despite the recent pandemic, the French Group has continued to invest in its international growth policy. The company now exports to more than 90 countries from its production site in Friville, and through its 9 subsidiaries worldwide, providing innovative solutions for the non-domestic sector. Its products are recognized for their durability, delivering optimal user safety and promoting hygiene while preventing the over-consumption of water.

DELABIE has developed a wide range of products to meet the challenges faced by healthcare facilities. The health sector now accounts for more than 15% of DELABIE's turnover, offering a major opportunity for the group. Its water controls and sanitary fittings can be found in French healthcare facilities such as the University Trust Hospitals in Paris (the largest teaching hospital in Europe) and Marseille. The group's solutions are also installed in several care and rehabilitation facilities. However, DELABIE also has an international presence. Its solutions have won over many hospitals including: the University Hospital in Cologne; the Jules Bordet Institute in Brussels; the Sofia Military Hospital; the Villalba Hospital in Madrid; the Metropolitan Hospital in Athens; and the Da Luz Hospital in Lisbon.

Healthcare faces very specific and more complex issues than other sectors. A challenge which drives the team at DELABIE continually to find innovative solutions. And no challenge has proved more inspiring than infection control and the fight against bacterial development.

The external surfaces of taps are a major source of contamination. DELABIE's taps are designed to prevent cross-contamination by reducing manual contact. The TEMPOMATIC range of sensor taps optimise hygiene as there is no physical contact before or after washing. They are ideal for visitor and staff areas. However, in clinical areas, DELABIE's mechanical mixer taps, featuring a long control lever, provide an alternative solution. Operated by a fist or elbow, they reduce the spread of germs and can be used by people with reduced mobility.

Smooth internal surfaces are also important for system hygiene, and over recent years taps with rough interiors (created by the casting process) have been replaced by ones with smooth interiors to improve infection control. DELABIE engineers, pioneers in this area, not only developed taps with smooth interiors, but also designed them to operate with low water volumes to minimise scale and biofilm – a source of shelter and nutrients for bacteria. DELABIE's BIOCLIP taps can be easily removed for cleaning to minimise biofilm, or disinfection if contamination occurs. DELABIE's electronic controls also feature a periodic duty flush to prevent stagnation, another contributory factor in bacterial growth.

Hot water is the typical method for controlling Legionella bacteria in healthcare facilities. However, this increases the scalding risk for users at the point-of-use. The DELABIE Group has developed solutions that reduce the scalding risk for the most vulnerable people (children, the elderly or disabled people). Solutions range from mixers with ceramic mechanisms and maximum temperature limiters, through to pressure-balancing (EP) which counteracts pressure variations in the system, and thermostatically-controlled mixers with full anti-scalding



failsafe. This extensive range of mixers, designed specifically for the healthcare sector, offers alternative solutions to meet the levels of risk faced by the different areas within hospitals and care homes. There is no need to compromise on hygiene, infection control and anti-scalding safety for any user.

With environmental concerns running high, healthcare facilities need to ensure efficient water management while maintaining hygiene standards. DELABIE's self-closing time flow or electronic taps provide a sustainable solution to prevent over-consumption. The valve closes automatically after 7 seconds (time flow models) or when hands are removed from the detection zone (electronic models), and flow rates are restricted. The user can wet their hands, apply soap and rinse without the tap running continuously. Water consumption is, therefore, optimised without sacrificing user comfort.

In healthcare facilities leaking toilet cisterns can account for up to 30% of water consumption. As economic pressures increase in care delivery, DELABIE offers an alternative solution which can reduce the water bill. Direct flush technology removes the need for a cistern by using the water pressure in the system to flush the toilet. Any damage or leakage is immediately evident and can be addressed instantly. Removing the cistern also improves system hygiene as there is no standing water at room temperature, an ideal temperature for Legionella bacteria to develop. The TEMPOMATIC 4 dual control WC flush valve also incorporates anti-blocking technology. This stops the mechanism from being blocked in the open position if the sensor detects an object for a prolonged period, preventing vandalism or inadvertent activation.

DELABIE also strives to offer accessible solutions including: a wide range of grab bars; shower seats for people with reduced mobility; and hygienic accessories that withstand intensive use. The ergonomics and aesthetics have been carefully considered. These products are intentionally designed to remove the institutional aspect of healthcare washrooms and promote user well-being while complying with current accessibility regulations.

DELABIE's R&D department is working intensively to prepare the solutions for the future of healthcare. A multitude of new products are under development: design, new materials, new technologies will be major assets for healthcare facilities in the years to come.

2022

ANAP Conference

(Agence Nationale d'Appui à la Performance des établissements de santé et médico-sociaux), in collaboration with EAHM:

“Critical care and health crisis: which organisational lessons at European level”;

Thursday, 16th June 2022, Salle RIVE Montparnasse (Paris 15^e)

Webinars with the “Institut Santé et Technologies de Troyes” - ISTT :

dates will be announced soon on the EAHM website.

Pan-European Hospital & Healthcare Procurement Summit

Registration is now open for the first ‘Pan-European Hospital & Healthcare Procurement Summit’ - organised by EHPPA - European Health Public Procurement Alliance and Health Proc Europe, which will take place at the Brussels Square Conference Center from 20- 21 September 2022.

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HOSPITAL WATER SYSTEM: PREVENTING INFECTIONS AND LOWERING COSTS

Certain water components and unfavorable operating conditions may cause microbial contamination in water systems - an issue that often remains undetected until the entire system is affected. Maintaining water purity from the inlet to the tap is a challenge. A challenge that, if not met, can have tragic effects, particularly in hospitals and care facilities. Therefore, regulations push to ensure high water quality, e.g., by demanding frequent checks and documentation of the hot and cold water temperature levels. At the same time, responsible use of energy is expected to save costs and to minimize the ecological footprint.

While the two goals seem antagonistic and their achievement is like a constant compromise, there are modular solutions for hospitals' specific needs that help them achieve both.

PATHOGEN DEVELOPMENT AND GROWTH

The development and growth of Pseudomonas, Legionella, and other water-borne pathogens, apart from being severely dangerous for patients and staff's health, can also have devastating effects on hospitals and care facilities and their management. An outbreak often causes peak mortality rates, increased length of stay, evacuation and quarantine of patients, and the ward's or entire building's closure. Subsequently, this is followed by an intense search for the root causes, and an investigation of responsibilities and liability takes place. Increasing awareness for hygiene topics on multiresistant pathogens, and quality of care in hospitals is popular in public media. Therefore, the long-term reputational damage caused by such an event should not be underestimated.

Routine infection control and prevention efforts often focus on water taps, sinks, and the use and processing of water in daily practice (i.e. cleaning of wounds and medical equipment, hand washing, food preparation). If a problem then persists, the source is often detected to be behind-the-wall in installations where it developed over a longer period, e.g., into the much-feared biofilm, nourishing and spreading pathogens into the entire building. People experienced with such matters are not surprised: Porous calcification, numerous changes in cross-section, dead spots and pockets of stagnating water in valves and connectors, and temperatures promoting bacteria-growth become more prevalent over the course of a buildings' lifetime.

REGULATIONS & GUIDELINES

The operation and control of water systems are highly regulated, especially for health and care facilities. Experts recommend dead spot/dead leg free water systems, high quality noncorrosive water pipes that are resistant to disinfectants and high temperatures, and less prone to calcification. Health facility operators must ensure hot and cold water temperatures that inhibit bacterial growth, regular water exchange, and often strictly defined intervals of measuring and documenting respective key parameters across the entire building are requested. While the laws and regulations may vary locally, the new EU drinking water directive (effective since 01/2021) pushes towards a risk-based approach to guarantee drinking water quality. The directive applies to all distribution systems serving more than 50 people or supplying more than 10 cubic meters per day or if the water is supplied as part of an economic activity¹.

ENERGY & COSTS

Lowering costs and minimizing the ecological footprint are high priorities in developing new buildings and important for the operation and maintenance of existing ones. Throughout public and political discussions related to health-care facilities, taxpayer costs and the emission of greenhouse gasses are key focus areas. The energy consumption for heating water, its transport through the building, and maintaining the required hot and cold temperatures represent a significant share of energy costs and the production of CO₂.

INNOVATIONS FOR A SAFE AND COST-EFFECTIVE WATER SUPPLY

GF Piping Systems (GFPS) is a leading provider of products and services for the safe and efficient handling, control, treatment, and transportation of liquids and gases in industries with special requirements. GF is among the 10 most sustainably managed global companies².

GFPS healthcare solutions are tailored to the distinct needs of hospitals, with the goal of providing the highest levels of patient safety and comfort, improved sustainability, ensuring compliance and lowering costs.

GFPS products are developed in Switzerland and produced in Austria, Italy, Switzerland, and Turkey.

- GF piping systems, valves, and fittings like Sanipex MT and Legiostop were proven, tested, and certified to be free of dead space and cross-sectional changes by an independent laboratory³. This, combined with the multilayer composite design, makes them more resistant against pathogen and biofilm growth, wear through high temperatures and chemical sterilization, and it lowers the noise of water coming through. As such, our piping solutions reduce the risk of contamination, are more sustainable and increase patient comfort.
- GFPS latest innovations help hospitals to significantly improve and monitor operating conditions and optimize energy consumption and to maintain the water quality. These include special digital automation tools like the Hycleen Automation System, temperature and flow sensors, sampling valves, and insulation options for the control, optimization, and maintenance of water temperatures anywhere in the building. Almost any existing water system can be digitized. It enables fully automated flushing and disinfection of the piping system, continuously measuring and documenting the relevant parameters, and for a continuous hydraulic balancing. This supports hospitals and care facilities to follow the latest regulations and guidelines with minimum human interaction, to improve infection prevention and to lower energy and labor costs.
- The GF wastewater system Silenta Premium as well as our PE drainage pipes are specially designed to minimize noise and maximize patient rest and comfort.
- If there are already concerns or events of contamination, GF also offers retrofit, temporary or permanent disinfection solutions like Hycleen Des30 that help to restore and permanently maintain your system with minimum interruption during installation.

For more details please visit
www.hygiene.gfps.com
www.gfps.com

¹ https://ec.europa.eu/environment/water/water-drink/legislation_en.html

² Negrin et al: The 100 Most Sustainably Managed Companies in the World; The Wall Street Journal, Oct. 2020
³ Fraunhofer Institute for Environmental, Safety, and Energy Technology, Germany

2022

24th HHSMA's annual hybrid congress in cooperation with the EAHM: “Anticipating the Next Crisis in Healthcare”

Athens, 13th to 15th October 2022 at the Hellenic Pasteur Institute

Thematic sessions:

- (a) National & European Union Preparedness
- (b) Acquiring Sufficient and Specialized Staffing in Healthcare Facilities
- (c) PHC: Strengthening the Front Line
- (d) Addressing the Mental Health Crisis
- (e) Big Data, AI, IT: How they Work Together?

And a seminar about “DRG in Europe”.

The international part of congress, only in English, will be held on Friday, 14th October 2022.

Events with bioMérieux on topics like “the impact of rapid diagnostics, opportunities for co-advocacy, ...” :

15th of October 2022 in Athens;

November 2022 – date and venue not yet fixed

75th Anniversary of the Health Management Institute of Ireland (HMI),

on 2nd November 2022 in Dublin, Ireland.

45th IHF World Hospital Congress :

“Global Learnings, Local Actions: Sustainable Healthcare” ;

9th to 11th November 2022,

Dubai International Convention & Exhibition Centre (DWTC), UAE

EAHM Europe Day at the German Hospital Day

on Wednesday, 16th of November 2022 during the MEDICA Fair in Düsseldorf, Germany

For other events and links, please visit our Website: www.eahm.eu.org

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