VIVA TECHNOLOGY

Korian at Vivatech

INNOVATION IN HEALTHCARE

Press kit

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KORIAN

INNOVATION IN HEALTHCARE:
A KEY SOCIAL ISSUE AND A PRIORITY FOR KORIAN

For several years, Korian's guiding philosophy has been to combine our healthcare expertise with the best of tech, digitalisation and artificial intelligence startups can offer. A people-first approach to technology where innovation aims to improve quality of life for the patients and residents we host in our many facilities, and that of the caregivers working there every day. And to ensure safety for all.

Innovation in health is a key social issue across Europe, as evidenced by the French "Healthcare Innovation Plan 2030" launched in 2021. Today, population ageing, chronic diseases, and mental health are three major challenges standing at the crossroads of both public health and demographic trends. In response, Korian's objective is to innovate in three priority areas: geriatrics (support for the elderly, Alzheimer's disease specialised care, palliative care), rehabilitation (musculoskeletal, neurological, pulmonary, nutritional, cardiac ailments), psychiatry and addiction medicine (burn-out, depression, addiction, eating disorders).

DID YOU KNOW?

- Korian is a leading player in healthcare services, with **70 medical care and rehabilitation clinics, including hospital at home care facilities,** which provide care centred on over ten specialities (geriatric, nutritional, cardiac, musculoskeletal, respiratory and neurological rehabilitation).

- Its 30 psychiatric clinics make up the **3rd largest network** of private mental health facilities in France.

- Korian is actively supporting the shift to outpatient care by carrying out **90,000** monthly consultations in Europe.

- Korian also offers a full range of housing solutions and support services for the elderly.

- These solutions include a network of retirement homes and assisted living facilities for seniors, as well as community, homecare and assistance services.

- The Group operates in **7 European countries** (France, Germany, Italy, Belgium, Spain, the Netherlands and now the UK), with more than 1,100 facilities.

- It employs **59,600 people,** including 24,000 in France.

An ecosystem geared towards innovation

With 20 years of experience, Korian is a prominent player in the healthcare sector (see "Did you know?"). Innovation is a strategic priority for the Group, with the aim of facilitating the implementation of solutions that improve the day-to-day safety and well-being of patients, residents, and staff.

The Health Research and Innovation Department (DRIS) was launched by Korian in 2020 after acquiring 5 Santé, a French group specialised in treatment of chronic diseases. Especially known for its work in the field of rehabilitation for patients suffering from respiratory diseases, the 5 Santé group had been developing its own autonomous and structured research programme since 2010. The DRIS contributes to generating new knowledge and updating practices in light of recent scientific information in order to offer patients the most innovative care programmes.

Korian Solutions.

Created in September 2018, Korian Solutions develops the ecosystem of solutions designed to optimise pre- and post-hospitalisation care, as well as to introduce connected devices both within facilities (retirement homes, assisted living facilities, clinics) and at home, in order to develop coordinated, seamless care pathways.

The Korian network of e-health start-ups. Several start-ups have joined the Group in recent years and their innovations are already improving care pathways inside our facilities and enhancing resident and patient quality of life.

- **Move In Med** specialises in developing digital services and tools to improve care for patients suffering from chronic diseases.

- **Technosens** designs and develops ergonomic digital solutions that strengthen social bonds and interactions between residents or patients and their families, whether in healthcare or medical-social facilities, and that can also be used at home.

- **Omedys** organises and deploys local remote consultation services to meet the needs of residents of medical-social facilities. The system facilitates continuity of care in rural areas, either to supplement or relay the services provided by general practitioners.

All these actors work hand in hand to improve patient care and care pathways, as well as medical and paramedical staff training.

Innovation: sample achievements

Geriatrics, rehabilitation, psychiatry, and addiction medicine: these are the three areas where Korian has chosen to focus its innovation efforts, in light of current demographic and public health trends. Some solutions are already widely used within our network, while others are being rolled out.

• Geriatrics (elderly care, specialisation in Alzheimer's disease, palliative care)

E-lio (innovation by Korian start-up Technosens). e-lio is a connected box specifically designed for seniors. With e-lio, residents can keep in touch with their loved ones by making video and audio calls from their flat.

Kaspard, a solution to prevent falls at night, which are a major cause of accelerated dependency. This non-intrusive detection device is based on innovative image-free technology.

SAM (Multisensory Autonomous Systems). Immersion is at the heart of SAM, which creates aural, visual, and interactive installations used for people suffering from depression and major cognitive impairments such as Alzheimer's disease. The patient navigates 4D settings in personalised photorealistic environments that are tailored to their emotional responses.

Blue crockery. People suffering from Alzheimer's disease or related disorders are prone to anxiety, which can especially arise during meals. Several facilities are responding by resorting to... blue crockery! This facilitates visual differentiation between food, dishes, and cutlery.

Disability simulation wear. This apparatus enables others to experience the difficulties faced by elderly people when it comes to moving around on a day-to-day basis. Intended for care and support teams, this innovation allows them to feel the physical effects of ageing, and thus to raise awareness of how people experience their disabilities day-to-day.

• Rehabilitation (musculoskeletal, neurological, pulmonary, nutritional, cardiac ailments)

Developments in robotics. Intended for patients with neurological ailments, following a stroke or lesions to the central nervous system. Robotic orthosis for walking in suspension (LOKOMAT), robotic orthosis for the upper limb (ARMEO POWER), and integrating robotics with traditional techniques strengthens the intensity and focus of rehabilitation by repeating movements centred on an action that is imagined, visualised or actually performed.

The exoskeleton, to learn to walk again. The exoskeleton is an effective effort assistant that facilitates the repetition of walking movements, resulting in faster recovery and improved quality of walking.

• Psychiatry and addiction medicine (burn-out, depression, eating disorders)

tDCS (transcranial Direct Current Simulation) is a brain neuromodulation technique for modifying brain excitability involving a weak electric field induced by two electrodes on a helmet.

rTMS (repetitive Transcranial Magnetic Stimulation), another neurostimulation technique, is more specifically suited to anxiety disorders. It modulates the brain's metabolism through repeated magnetic stimulation of certain areas of the brain.

The UNIQ Brainstim app (designed by Move in Med, a Korian start-up), enables the care coordinator (the facility's nurse or psychologist) to interact with patients once they return home. The app provides access to information on rTMS, pathologies, how to effectively plan sessions, and self-assessment questionnaires to gauge patient feelings regarding treatment benefits.

Innovations featured at Vivatech
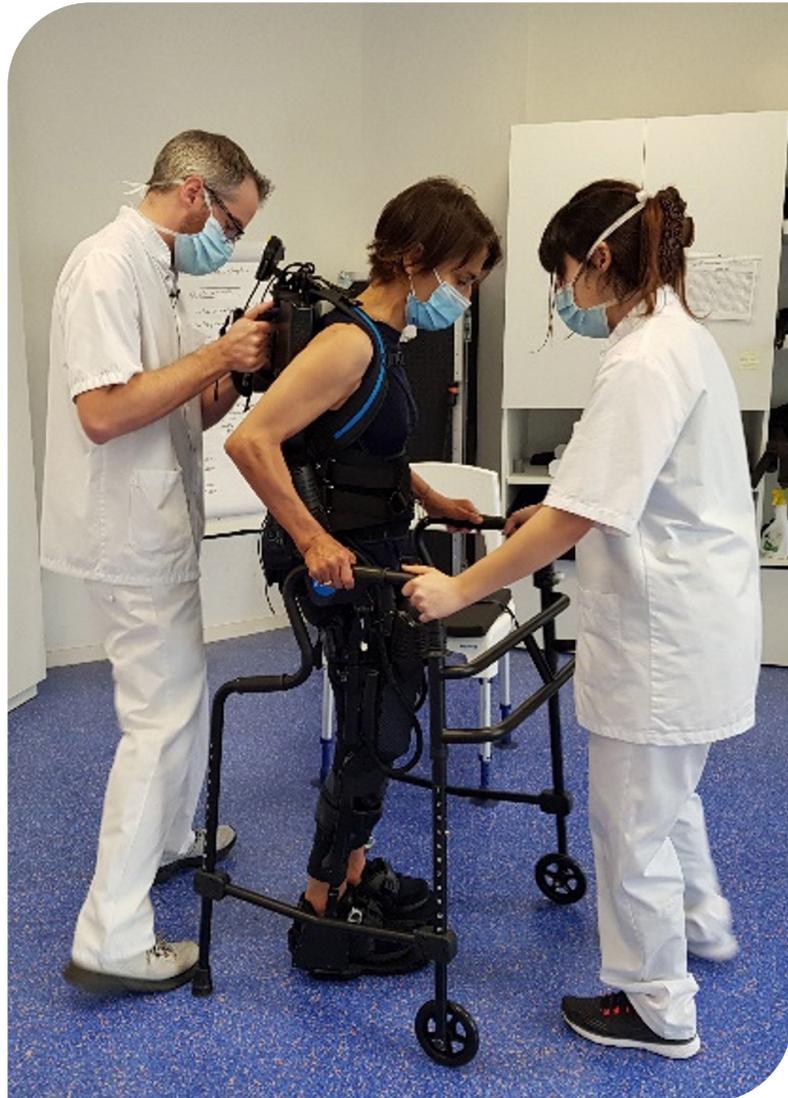
Rehabilitation session with the Exoskeleton at the Marienia Physical Medicine and Rehabilitation Clinic (64250 Cambo-les-Bains)

e-lio by Technosens

Start-up Korian

Description:

e-lio is a connected box designed specifically for seniors. It provides a simple digital environment, suitable for all users, to strengthen social bonds and information sharing between the facility (digital displays), the residents (connected TVs and tablets) and the families (dedicated app).

Company:

e-lio is a solution developed by Technosens, a company created in 2007, which designs and develops digital solutions to strengthen social bonds between seniors in healthcare facilities. Korian majority equity stake alongside VYV Group: September 2020.

Health applications:

quality of life and social bonds.

Benefits:

• For residents: maintaining social bonds with relatives, a range of relevant services (TV/tablet/paper newspaper).

• For families: a dedicated app to maintain social bonds with close relatives (video calls, sending messages/photos, etc.) and with the facility (messages, news, etc.).

• For facility staff: a single tool to create and distribute content within the facility and to families.

How it works:

e-lio turns any TV or tablet into a digital environment suitable for seniors, so they can benefit from a wide range of services: video calling, entertainment, TV, radio, home automation, etc.

Technical specifications:

Technical and physical requirements: 1 TV set, 1 internet connection via WiFi or RJ45 cable via router / 1 standard power supply + multi-socket (to connect the box as well as the TV screen + router if necessary).

The e-lio box connects to a TV with an HDMI cable. It must be connected to the internet via WiFi or Ethernet cable. To access the TV function, the box must also be connected to a coaxial cable. The box is powered by a standard electrical socket.

Therapeutic window

Description:

The idea is to create an immersive digital space by projecting images on a giant screen that provides spatial and temporal reference points for people with cognitive impairments.

Among these images: sunrise, breadmaking during breakfast, kitchen scenes during meals, sunset or starry night in the evening: the videos and photos displayed punctuate the day's highlights to stimulate reminiscence, strengthen the correlation between the day's actions and sequences, and preserve the reference points acquired throughout a lifetime.

Health applications:

The therapeutic window is an immersive experience similar to a non-drug therapy. It is designed to soothe people with severe cognitive impairments in protected living units in residential and extended care facilities. It is deployed in France in several Korian group long-term care facilities, notably at Korian Rives de Selunes (Manche, France).

Benefits:

- Reduces anxiety, soothes residents.
- Stimulates reminiscence.
- Facilitates mediation between families and residents.

How it works:

Images projected on a wall help to focus and assist the residents living protected units throughout their day.

Multisensory Autonomous Systems (SAM)

Description:

Immersion is at the heart of SAM: aural, visual and interactive installation, designed by inMersiv Technologies, for people suffering from depression and major cognitive impairments such as Alzheimer's disease.

Health applications:

This system helps alleviate anxiety, depression and major neurocognitive disorders or neurodegenerative diseases (Alzheimer's disease). It is currently being tested in Belgium.

Benefits:

SAM offers a sense of well-being and a positive change of scenery that reconnects patients with their loved ones.

How it works:

The patient navigates 4D settings in personalised photorealistic environments that are tailored to his/her emotional responses. SAM thus enables patients to experience quality moments that help reduce feelings of loneliness and anxiety.

Technical specifications:

SAM takes the form of a structure measuring 3.60 x 3.60 x 2.50 metres. The system's four surfaces offer a 360° panoramic view. SAM can be deployed in two days.

SAM just requires access to a standard power socket (approx. 3.6 kW) and an internet connection to enable system updates.

KASPARD

Description:

Kaspard is designed to prevent falls at night, a major cause of accelerated dependency. This non-intrusive fall detection system is based on innovative image-free technology. It uses sensors to recreate the topography of the room as a scatter plot. The system compares these data points to determine movements and location and detect potential falls or abnormal delays in getting to bed—which alerts nursing staff for immediate intervention if necessary. Over time, this program can detect a resident's specific vulnerabilities and adapt their care pathway accordingly.

The solution is gradually being deployed in France, Belgium, and in the UK.

Health applications:
Geriatrics

Benefits:
• Reducing care staff reaction time in case of a fall.
• Fall prevention.
• Improving understanding of falls.
• Increased feeling of safety for residents.
• Increased staff quality of life.

How it works:
Kaspard is made up of a sensor and a reporting screen. The sensor is to be used in patient rooms, and makes it possible to detect when a patient falls or leaves his or her bed as well as to contact nursing staff if necessary. The reporting screen is used to monitor the various falls that occur in the rooms.

Vaisselle Bleue (Blue Crockery)

Description:

People with neurocognitive disorders are prone to anxiety, especially at mealtimes. A person may no longer recognises food or forget how to use cutlery. One way to help them and preserve their autonomy is to facilitate visual differentiation between food and crockery. Why blue dishes? Because it is a colour that does not appear naturally in food, making it easier for patients or residents to differentiate their food from the dishes.

Health applications:
Neurocognitive disorders (Alzheimer's disease or related).

Benefits:
• Facilitates visual differentiation between food and dishes. Resident perceives food more easily.
• Promotes food intake.
• Helps reduce undernutrition.
• Easy to use.

Technical specifications:
• The crockery is made of melamine
• It is both light and very durable

Ageing and physical disability awareness suit

Description:

This is a disability simulation suit enabling people to experience the difficulties faced by people when it comes to moving around on a day-to-day basis. It offers greater insight into residents' behaviour by putting oneself in their shoes, and into how to introduce preventive measures and best practices. The aim is to raise awareness of elderly and/ or disabled patient care.

Health applications:

This device is used in Korian healthcare and medical-social facilities. It is intended to raise awareness among nursing and management teams of how people experience their disabilities in daily life.

Benefits:

- Developing an understanding of how people with disabilities and elderly experience their daily lives.
- Feel the slower pace of the elderly.
- Developing empathy.
- Raising awareness of preventive measures and good practices to improve back care.
- Better understanding for better care.

How it works:

The disability simulation suit is made up of several parts to simulate tinnitus, back pain or multiple disabilities, in order to feel the rigidity and muscle weakness that develop with age. It is composed of:

- Knee pads, elbow pads, gloves
- Chest waistcoat
- Ankle, wrist and chest weights
- Tinnitus and hearing loss simulation helmet
- Eyeglasses to simulate eye conditions

EXOSKELETON

Description:

In physical medicine and functional rehabilitation, robotics in general and motorised exoskeletons in particular, aim to intensify and diversify rehabilitation. They allow the repetition of movements centred on an action that is imagined, visualised or actually performed and to detect and compensate for certain neurological motor deficiencies.

Health applications:

Ailments of the nervous system, especially strokes and spinal cord injuries, require specialised and intensive multidisciplinary rehabilitation. Exoskeletons supplement traditional rehabilitation by increasing the intensity and accuracy of specific procedures. This device is currently being tested at the Marienia clinic (Cambo-les-Bains, Pyrénées-Atlantiques, France), a Korian group post-acute and rehabilitation care clinic specialised in physical medicine and rehabilitation.

Benefits:

EKSO is a safe robotic walking aid enabling the patient to perform repetitive movements of the lower limbs in conjunction with the trunk, compensating for any patient deficiencies. The aim is to accelerate recovery and improve the quality of walking function.

How it works:

The apparatus consists of an exoskeletal trunk module with articulated robotic orthoses, complete with recording sensors and motorisation elements. Clinical examination and sensor data enable specialist physiotherapists to program the assistance required for rehabilitation and movement. This is done via a control console linked to the orthosis.

EB2 - Evidence Based Behavior

Description:

EB2 is an app designed to monitor patients with eating disorders. It records passive data, such as physical activity or screen time, as well as active data such as emotional state, food intake control. Based on an artificial intelligence algorithm, the application is able to suggest specific lines of intervention.

Health applications:

This system is used for the treatment of eating disorders in Korian group mental health clinics in Spain.

Benefits:

- Constant monitoring during treatment, detecting deterioration and relapse.
- Real-time clinical data with predictive value.
- Instant communication between the patient, the clinical team and the family.
- Outcome monitoring.

How it works:

Both patient and family have their own app. Once the data is recorded, it is instantly available to the clinician via a web interface. The application collects data in the background, such as sleep time, time spent at home, physical activity or screen time.

Technical specifications:
- Computer
- Smartphone (Android or iOS)
- EB2 app installed on mobile and computer

C2Care - Virtual Reality Exposure Therapy

Description:

C2Care is a virtual reality therapy system, which combines a device—Virtual Reality goggles—with software featuring relaxation scenarios and exposure to anxiety-inducing situations. The therapist can use various therapeutic approaches.

Patient exposure to anxiety-inducing situations can be used to treat specific anxiety problems, such as phobias or panic attacks.

Health applications:

This type of Virtual Reality therapy system supplements traditional therapies and is recommended for the treatment of anxiety disorders such as phobias, generalized anxiety disorder, post-traumatic stress disorder, and obsessive compulsive disorder (OCD), as well as eating disorders, depression, and addictions. It is used in France in mental health clinics.

Benefits:

- Non-drug therapy.
- Secure environment.
- Relaxation and improved understanding of anxiety-inducing situations.

How it works:

Virtual Reality goggles are placed and fitted on the patient. The images displayed by the goggles appear simultaneously on a computer screen, which enables the clinician to monitor what the patient is seeing. The clinician can adjust the scene parameters according to the patient's needs (varying the stimuli, sound, intensity, etc.).

tDCS

Description:

Transcranial direct current simulation is a brain neuromodulation technique for modifying brain excitability involving a weak electric field induced by two electrodes on a helmet.

Health applications:

This system assists in the treatment of various pathologies in the field of psychiatry and addiction medicine. It is being used in France in mental health clinics and outpatient facilities.

Benefits:

• Portability.
• Ease of use.
• Cost (financial / time).
• Limited side effects.

How it works:
• Procedure for the neuromodulation of cortical excitability
• Non-invasive and painless
• Uses constant galvanic current (DC)
• Low intensity (1-2 mA)

rTMS

Description:

Repetitive Transcranial Magnetic Stimulation - rTMS - is a neurostimulation technique especially suited for treating anxiety disorders. It modulates the brain's metabolism through repeated magnetic stimulation of certain areas of the brain.

"30% of patients who respond positively to rTMS go into remission after treatment". "Several clinical criteria can be used to determine the profile of patients classically described as 'positive responders". These patients are typically under 65 years old, suffer from moderate to severe depression and have experienced a depressive episode over a period of less than two years", explains psychiatrist Dr. Bourla.

Implemented in 2017, this treatment is now available in 9 INICEA facilities to treat 700 patients, 80% of whom suffer from depressive disorders.

Health applications:

Psychiatry and anxiety disorders.

Benefits:

• Proven effectiveness in many indications (severe to moderate depression, contraindications or rejection of drug treatments, severe anxiety disorders, PTSD, addictions, etc.).
• Painless, non-invasive procedure, without anaesthesia.
• No significant side effects.

How it works:
A current flowing through a coil applied to the scalp produces a magnetic field. This stimulation restores activity in the areas of the brain where it is deficient. Patient brain MRIs make it possible to target treatment with great accuracy, thanks to a neuronavigation device. rTMS treatment courses are protocolised: they involve 30 sessions over 6 weeks at a rate of 5 weekly sessions, without any interruption of the treatment. Each session lasts between 10 and 30 minutes.

OMEDYS

Korian Start-up

Description:

Omedys is a start-up supporting the implementation of a new model for general practices called "Telemedical Solution", which is a telemedicine service registered with local authorities.

In medical deserts, for patients lacking a general practitioner or facing unreasonable delays in accessing one, Omedys organises the delivery of assisted and augmented remote consultations. Patients, in a room near their home, are assisted by a healthcare professional during the remote consultation, which is performed by doctors in the same region who practice within the "Telemedical Solution" service.

Company:

A start-up founded in 2018 in Troyes, France by two experienced emergency doctors specialising in telemedicine, in which Korian acquired a 70% stake in 2020.

Health applications:

Local Telemedicine Authority.

Benefits:

Implementing local telemedicine authorities in a given health district, supported by assisted and augmented general practice remote consultations, delivers:
- Reduced delays in accessing consultations.
- Improved follow-up of patients who lack a general practitioner and to reinsert them into a coordinated care pathway.
- Valuable support to GPs in areas facing a doctor shortage, in perfect collaboration with the local health ecosystem.
- Sustained local service and greater continuity of care for general medicine within medical-social facilities.
- Reduced inappropriate recourse to emergency structures.
- Consolidated coordinated care pathways in areas facing a doctor shortage.
- Reduced digital illiteracy in (generally) rural areas.

How it works:

The Telemedical Solution private medical practices, run by local doctors, share medical time through assisted and augmented remote consultation in a regional network of remote consultation rooms located in medical deserts.

Patient care by a health professional guarantees access to the greatest number of patients possible.

The organisation only intervenes as a recourse for the general practitioner and for patients without a general practitioner.

Omedys uses trolleys, cases, and tablets with commercially available connected devices (stethoscope, otoscope, handheld camera, ECG).

Omedys co-constructs medical projects with the local healthcare system to enable the implementation of remote consultation rooms and trains healthcare professionals as telemedicine assistants.

This model, which is fully compliant with the current regulatory framework, is registered as a local telemedicine organisation by the Joint Commissions of Private Practitioners and thus eligible for health insurance coverage.

Omedys is responsible for deploying this local telemedicine organisation model.

The Omedys local telemedicine organisations perfectly fit into the local health ecosystem, are recognised and promoted by the medical profession, and reinforce coordinated care in areas facing medical shortages. Analysing health needs in medical deserts, creating local medical projects with health professionals and elected officials, training these professionals, and, finally, using a suitable technological solution, whether pre-existing or not, are the necessary prerequisites to implement these remote consultation rooms within the areas connected to the practice.

Technical specifications:

Within the Telemedical Solution practices, registered local telemedicine organisations:
- Workstations fitted with computer equipment enabling remote consultations to be carried out by specially trained doctors who dedicate part of their medical activity to this
- Internet connection

Within the remote consultation rooms:
- A technical telemedicine solution
- Internet connection

Move in Med

Korian Start-up

Description:

Move in Med specialises in developing e-health services and solutions to improve the care pathway of patients suffering from chronic diseases. They design care pathways that combine individualised patient support with the creation of a personalised and secure digital environment. Move in Med especially develops and markets UNIQ, a web platform to coordinate care and remotely monitor patients. Move in Med is also a training institution and, as such, trains healthcare professionals in the new professions related to care coordination.

Company:

Founded in 2016. Korian equity stake date: February 2020 (majority stake).

Health applications:

City-hospital coordination and remote monitoring of frail or chronically ill patients.

Benefits:

• Coordinating patient pathways; reducing disruptions in pathways; individualised support; supporting medical teams with diagnosis and follow-up.

• Decompartmentalising the world of healthcare and medical-social care by enabling each stakeholder to access clear and concise information concerning the patient's care pathway.

• No loss of information. Early detection of patient health deterioration.

• Facilitates patient involvement in their own care pathway as well as preserving the benefits acquired during the care process.

How it works:

The UNIQ e-health platform enables healthcare professionals to securely exchange information and access the same level of information by centralising patient care pathway data and events. Made available to the new professions arising in the field of care coordination, it allows setting up and monitoring the key stages in the care pathway. A dedicated app for patients provides a range of resources related to their pathology and enables them to answer questionnaires that trigger alerts to the medical team in the event of deterioration or a harmful event. UNIQ is a valuable aid in organising care and meets the challenges tied to monitoring and remotely supervising complex and chronic pathologies.

Notes

Notes

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Find out about Korian in France
on social networks:

 @Korian   @Korian   Groupe Korian   @Korian_fr

Press contacts: press@korian.fr