The "Agostino Gemelli" University Hospital in Rome is very happy with its new neonatal intensive care unit which opened in 2013. The unit is comprised of Dräger ceiling supply structures, monitoring, ventilation and more – a complete Dräger solution. This flagship NICU in Rome is the result of determined hospital administrators and a strategy to achieve only the highest quality.

Edoardo was born early, only 23 weeks into his development. For 19 weeks, the little Italian has been in the NICU of the "Agostino Gemelli" University Hospital. His parents visit him every day and his mother is full of praise for the excellent conditions in the unit. "The fantastic technology, which I now understand myself, and the helpful staff give me confidence," says Margherita Vetrano. She likes the fact that she can take care of her little Edoardo in his incubator and she appreciates the space she and her husband have in the new NICU.

This example from the NICU of the "Agostino Gemelli" University Hospital is not an isolated case. Parents and hospital administrators are very satisfied with the new working environment available to them since June 2013. "Colleagues from other hospitals visit the new facility in the eastern part of Rome," reports Professor Costantino Romagnoli, Director of Neonatology and the paediatric intensive care unit of the hospital. Many clinics and hospitals from the Lazio region are said to have eagerly awaited the opening date and are now transferring their most critical cases to the new NICU at Gemelli. This is because, “they know that we can provide highly qualified therapy here,” explains Romagnoli. “We have created an exemplary setting here that is unparalleled.”

At the root of this success lies a plan that was focused from the beginning on building an optimal NICU from the ground up. This includes a smart layout of a newly occupied floor, the latest technology in an integrated comprehensive solution from Dräger, and NICU workplaces jointly designed and optimised by the clinic and Dräger.

The "Agostino Gemelli" University Hospital is the second largest hospital in the Italian capital with a capacity of 1,650 beds. The intensive care unit for children in the hospital traditionally plays a significant role in the region. It underlines the strength of the hospital in obstetrics and gynaecology. The hospital has always been a reference point for all neonatologists in the region. Premature babies with an extremely low birth weight are admitted here, as well as babies with neurological abnormalities or pathologies of the respiratory tract, and premature babies in need of surgery (except for heart surgery).
The conditions at “Agostino Gemelli” for the paediatric intensive therapy unit were not the best before the reorganisation. The old unit suffered from a lack of space and not all beds were equipped for intensive care. In 2010, the planning for a new NICU at Gemelli matured. An opportunity became available to realise what would be considered an optimal neonatal intensive care unit in the former library of the hospital that opened in 1964. “Sixteen intensive care beds were to be created in a room of 880 square metres, and an additional 16 subacute beds in the adjoining room of the same size,” reports Costantino Romagnoli, the father of the project and the President of the Italian Society of Neonatologists. To him, it was obvious that each of the 16 new intensive care beds should be equipped with everything intensive therapy would require. “We want ventilation, oxygenation, resuscitation, monitoring and infusion all at every bed.”

It was also obvious that all the technology must be contained in an integrated solution from one manufacturer to ensure a harmonious interaction of the devices, one contact for everything and, last but not least, a single user language making it easier for the staff to work with the equipment. And this was something all participants of the project team agreed upon. Plinio Cianfanelli, Head of Biomedical Engineering, “The most important part for us was to maximize the integration of all systems since we are dealing with a large quantity of complex devices.”

**HIGH FREQUENCY VENTILATION WAS A REQUIREMENT**
The team also required that their concept of ventilation with high frequency could be implemented with the new equipment pool. In the past at Gemelli, they had very good experiences with ventilating babies of extremely low weight with high frequency oscillation. The Dräger Babylog VN500 was previously the device of choice for this purpose in Rome. This was to remain the same in the new NICU.

Romagnoli: “We needed a very user-friendly ventilator that allowed us to switch easily from ordinary ventilation to ventilation with high frequency. Only the Babylog VN500 was able to guarantee this.”

The Babylog VN500 was therefore part of the equipment in the new NICU. The team’s previous experience with Dräger was very positive, according to the Head of the NICU. Ventilation with the Babylog 8000 and heat therapy with Caleo has been used at Gemelli for many years. Professor Romagnoli says, “From a medical and technical supply-related standpoint, we were always very satisfied. That is why Dräger was part of the redesign of the concept from the beginning.”

Eight providers participated in the tender for the new NICU in Rome, and, “only two of them were able to guarantee us one hundred per cent that an all-in-one solution was going to be available,” says Professor Romagnoli. The project team visited reference installations for each manufacturer and Dräger emerged as the winner. Romagnoli explains, “The devices from Dräger satisfy the highest demands in terms of quality and aesthetics. Even medical technician, Cianfanelli, spoke clearly in favour of Dräger as part of his assessment for the evaluation commission, especially because of the good experience and high quality of their products. “However, what was most convincing was the integrated solution,” says Cianfanelli. Quality was assigned 60 per cent of the vote and 40 per cent went to the matter of price. Plinio Cianfanelli, “We simply feel that the high quality of the technology and the care given to the patients is more important.”

So it came about that Dräger supplied all the equipment for the new NICU in Rome including, Ponta E ceiling supply units, Caleo incubators, Babylog VN500 ventilators, Photo-Therapy 4000 and Jaundice Meters (JM-103).
The comprehensive solution Infinity Omega is used for monitoring and includes the Infinity Delta unit for bedside monitoring and the Central Station for central monitoring. The Infinity Gateway enables integration of all NICU files. As of October 2013, a complete integration was not yet implemented at Gemelli but it is planned and possible at any time with the existing equipment. Costantino Romagnoli explains, “We have created the prerequisites for saving all information from the patient’s bed to a central electronic medical record system.”

DRÄGER SUPPORT DURING THE PLANNING PHASE

The room design for the new NICU was developed by the clinic. It consists of two large rooms featuring a central work table surrounded by all 16 treatment stations. The design of the individual workplaces was carried out in cooperation with Dräger. Thus, Dräger supported the hospital in Rome already during the planning phase. The NICU staff at Gemelli explained their specific requirements for the workstation design. The Italian group had specific ideas, acknowledges Professor Romagnoli, “The assembly phase of the equipment was complicated because our design, and the way we imagined the NICU was going to look and function, meant that Dräger had to face some challenges – which Dräger was able to master by adapting to our needs.”

Once the new NICU was established, most difficulties had been overcome as well. Dräger had already provided the NICU staff in the old ICU with a therapy unit featuring the new equipment for practice. This may not have been been necessary since management at Gemelli hospital emphasised that the staff were already familiar with several Dräger devices, therefore the changeover was not very difficult. The move was trouble-free, too. The small patients were simply moved 100 metres further within the hospital to the new NICU and connected to the new devices.

HEAD OF NICU: “WE GET POSITIVE FEEDBACK”

After eight weeks of operation, the assessment of the new NICU at Gemelli is positive. “Thanks to the standardised and uniform structure of equipment, the quality of care can be maintained throughout the duration of the intensive care treatment,” states Dr. Gianni Vento, Head of the NICU department. The staff are asked every day how they are getting along with the new equipment.

“We get positive feedback in terms of better visibility of the newborn, as well as the diverse ways of interacting with the newborn and the clear and easy-to-read display of all the vital parameters,” says Gianni Vento.

The nurses confirm this view. “They say that new technology helps them do their jobs better,” reports Alessandra Gianduzzo, Head Nurse of the NICU. The equipment of the NICU helps to deliver targeted care to the newborns. Incubators and monitors are reported to have an intuitive operating concept, also for checking whether everything has been connected properly. Gianduzzo and her colleagues work well with the devices. She finds it very helpful, for example, that Caleo maintains the set temperature, even if the access openings are opened while nurses and parents care for the premature babies.

Alessandra Gianduzzo also sees advantages in the handling and hygiene of the equipment: “The equipment is more easily disassembled and reassembled, does not have any sharp edges, and is easy to clean.”

“This is also appreciated by the cleaning staff,” says Gianduzzo. Last but not least, the supply units are easier to slide, making for better and faster work. The doctors at Gemelli confirm the positive evaluation of the nurses. The team has embraced the new NICU enthusiastically because now everything you need for the care of
Everyone involved greeted the new NICU with enthusiasm.

newborns is available quickly and readily, without modifications, changes or loss of time. “This has simplified daily routine tasks,” states Professor Romagnoli, “because the staff simply has more time for the actual care of the babies.” While previously one caregiver had to take care of three or four children at the same time, this ratio is now one to two. “It is no longer necessary to move newborns to other wards,” adds Dr. Gianni Vento. “This confirms that the new ICU has provided the opportunity to deliver high-quality care to newborns who have a very low weight – with consistent staffing levels.”

during this very difficult phase. “These details make for happy people,” explains the Head Nurse. “Thanks to the height adjustment of the Caleo unit, parents are able to practice kangaroo care and thus support the development of their premature babies. It definitely has helped little Edoardo.”

Some products and features described are not available for sale in all countries. Please contact your local sales representative for details.

This positive overall impression is also shared by the parents visiting and taking care of their children at Gemelli every day. “They are full of praise,” says Alessandra Gianduzzo. Parents appreciate the peaceful atmosphere in the NICU, the place where they spend every day in the treatment rooms for the care of their children, and the technology that makes life possible for these babies

Family-centred care at the NICU.

The whole team at “Agostino Gemelli” is very pleased with the new NICU.
Professor Costantino Romagnoli, Director of Neonatology and the NICU of the hospital, wanted to have a unit where each treatment station is fully equipped. To improve the quality of care and minimise the need for training and losses due to friction, all equipment should come from a single provider. In addition, each intensive care workstation should have a lot of space for the care of the babies, and the design of the workstation should be based on the needs and requirements of the nursing staff. Costantino Romagnoli explains, “Our cooperation with Dräger started with the implementation of a completely new station. The willingness and flexibility Dräger has shown towards us has exceeded our expectations.”

Dr. Gianni Vento, Head of the NICU department, really appreciates that the new NICU now makes it possible to “use the technology from Dräger to ensure continuity of care during the entire intensive treatment.” He also thinks it is good to obtain all three systems – ventilators, monitoring systems and incubators – from a single source, thus enabling interaction among the various devices. In addition, he is glad that the hospital has now entered into an intensive dialogue with the manufacturer to contribute to the improvement of the performance of each device.

The medical engineer Plinio Cianfanelli takes stock after several months of operation of the new NICU, he says, “My impression is positive. As for the monitoring, we now have monitors that can be placed on the bed or also elsewhere in case of an emergency. We have obtained ventilators that are very easy to use and powerful, for example, concerning high frequency. When it comes to the incubators, ease-of-use for the nursing staff is the most important aspect for us and it is this which makes the equipment in our opinion also so highly functional.”

Head Nurse Alessandra Gianduzzo is very clear about it, less effort in the operation of medical technology makes it possible for her and her colleagues to provide newborns with better and more intensive care. The devices have intuitive systems that provide unambiguous alarms, prevent human errors and are simple to install, among other things. Thanks to the high performance of the equipment, staff and parents can better care for the babies, including skin-to-skin care which is important for the development of premature babies. “Parents are very happy with the new NICU,” says Gianduzzo.
Policlinico Universitario “Agostino Gemelli”
The “Agostino Gemelli” University Hospital opened in 1964. Today, it is the second largest hospital in the Italian capital with 1,650 beds and 300 additional beds in rehabilitation and outpatient care. The Policlinico Gemelli is part of the Catholic University. The Neonatology unit is one of the strengths of this hospital. It is a reference centre for the entire city and the Lazio region.