MITSUBISHI ELECTRIC
Changes for the Better

// A HOUSE IS BUILT, BUT A HOME IS FORMED //

CONSTRUCTION PHASE

WE ARE DESIGNING THE FUTURE //

To create a modern and sustainable building which could provide the best possible working conditions for Mitsubishi Electric's divisions and employees, we looked to our own technological expertise to meet the renewable energy requirements for the entire office complex. Using our highly efficient air conditioning and heating technologies as well as numerous building automation and safety technologies we incorporated products such as our own lifts and flat-screen monitors into our new home.

The new German headquarter of Mitsubishi Electric was established at Mitsubishi-Electric-Platz 1 in Ratingen at the end of 2015. Setting the standard for environmentally friendly and sustainably resourced construction, the building has been awarded Platinum LEED certification.

The new building symbolises the coming together of our business divisions along with our own technological solutions which underpins our goal to become a global leading green company.

Systematically sustainable: When designing the Mitsubishi Electric office and administration building in Ratingen, the use of renewable energy sources and smart energy control systems were key priorities for us.

SUSTAINABLE BUILDING WITH OUR OWN TECHNOLOGIES//

Less energy, more comfort. A key element in ensuring maximum energy efficiency in our building is simultaneous heating and cooling with heat recovery using our City Multi VRF R2 systems. The thermal energy is intelligently transferred within the building using just two pipelines. Heat taken from the rooms being cooled is not simply vented outside, but is used to heat rooms where warmth is required, rendering conventional heating technology superfluous.

PRODUCT OVERVIEW
LIVING ENVIRONMENT SYSTEMS

SIMULTANEOUS HEATING AND COOLING WITH HEAT RECOVERY

Our City Multi VRF R2 systems are ideal for large and challenging buildings. With the use of R2 technology, energy consumption can be reduced by up to 40 % and investment costs by up to 25 % compared to chilled water systems. And there are more benefits: the diverse range of technically and visually high-quality indoor units provides the necessary flexibility for special interior design features.

THE AIR CONDITIONING EVOLUTION: MORE WATER, LESS REFRIGERANT

The first hybrid VRF system for simultaneous heating and cooling is not only an in-house Mitsubishi Electric product, it's also used at our new home in the state-of-the-art seminar rooms for our specialist partners. The City Multi HVRF R2 system combines the benefits of a direct evaporation unit with those of a water-based system. Up to 40 % savings on refrigerant can be made as water is also used as the heat transfer medium.

WARM INDOORS EVEN WHEN IT'S FROSTY OUTSIDE

Sufficient heat output is produced with our patented Zubadan technology, even when outside temperatures drop to –28 °C. Our Mr. Slim outdoor units are just some of the products to feature this technology. They have the task of supplying the central ventilation system in our building with heating or cooling for the fresh air conditioning.

ENERGY FROM THE OUTSIDE AIR

The Ecodan air-to-water heat pump system gains its energy from the outside air and adjusts its output precisely to the heat requirement. We use the Ecodan system to supply the underfloor heating in the entrance foyer.

DRY HANDS WITHIN SECONDS

We supply hand dryers too. The Jet Towel hand dryers in the washroom facilities use "air jets" to thoroughly dry hands within seconds.

SMART CONTROL

Our control systems save energy and protect the environment – from local temperature control of individual rooms to centralised system control and monitoring of all indoor units in a building from a central point.

INNOVATIVE SOLUTIONS FOR BUILDING MANAGEMENT TECHNOLOGY //

Everything in sight

Our new digital video monitoring system enables the rapid detection of unauthorised access and prolonged stays. Even in low light conditions, the system uses CCTV cameras to transmit high-resolution full-HD images to monitors in the reception foyer and forwards any alarm messages raised.

The new era of vertical transportation

Lower energy consumption, maximum reliability and a sophisticated high-quality design are the key requirements when it comes to lifts. That is precisely why we rely on our own technically advanced NEXIEZ-MRL lifts for the vertical transportation of visitors and employees.

More safety, lower costs

Fire protection adds a further layer of safety to a building – despite being costly and maintenance-intensive. When incorporated in fire and smoke alarm systems, Mitsubishi Electric contact sensors detect faults with smoke dampers and thus contribute to enhanced safety and significantly reduce the need for costly high-maintenance fire protection.

True-to-life images

All of the TFT-LCD flat-screen monitors along with the interactive media wall in the entrance foyer have been developed by Mitsubishi Electric. With their true-to-life colours and outstanding image quality these eye-catching installations bring the virtual and real worlds closer together.

A MODERN CAMPUS FOR AN INNOVATIVE COMPANY //

Space for innovative ideas

Everyone and everything under one roof. With some 16,000 square metres of usable floor area over five and a half floors, the new Mitsubishi Electric building offers space for a Training and Technology Centre and for offices and meeting rooms designed to meet the exacting standards of a modern and efficient working environment. All Mitsubishi Electric divisions are located here on one site to facilitate communication, cooperation and exchange of ideas. The building also features an underground car park with space for around 500 cars.

It is not just the investment costs that have to be taken into account when designing a building: the life cycle costs, too, need to be carefully considered in order to minimise costs.

Pioneering technologies incorporating excellent energy efficiency help to increase the value of a property in the long term.

Visionary concept

The energy concept for the new building was developed using the extensive knowledge and expertise of the LES (Living Environment Systems) division. Our company is consistently setting new standards in air conditioning technology and, with its wide range of products, has established itself as one of the foremost global manufacturers. Our company generates many innovative technologies that are regarded as excellent examples of maximum efficiency. We offer our customers complete solutions – with precisely coordinated products and first-class services.

The world of Mitsubishi Electric

Playful, visually stimulating, informative: The foyer is not just a place to welcome our guests, it is also used as a showcase for our solution expertise in the areas of automation, energy, communication, building and transportation. Analog and digital elements sit side by side here. An active robot installation invites visitors to learn more about various automation solutions or intuitively experience mobility on road and rail.

Take a look at our building construction video on YouTube now!

Understanding technologies, learning engineering

We offer our professional partners the ideal conditions for learning about our technologies and products with two in-house training zones (for Air Conditioning and Ventilation Technology and for Heat Pumps). Alongside seminar rooms, there is also an expansive showroom for exhibits, where visitors can do more than just look. They are also actively encouraged to touch, try – and understand.

ALL THE THREADS COME TOGETHER HERE//

A modern building management system includes many different components that contribute to the efficiency, as well as to the safety of a building. It is crucial that all the data and information is fed to a central point where it can be monitored.

The Factory Automation division has equipped the German headquarters of Mitsubishi Electric with a building management system that guarantees the highly efficient operation of the building infrastructure. Air conditioning and heating systems, as well as lighting and safety technology, such as access, burglar, fire and smoke alarms, can all be managed by the controller. Over 4,000 safety switches also control almost all circuit and earth leakage breakers, thereby enhancing the technically superior equipment within the building.

VISUALISATION OF ALL DATA

All air conditioning and safety-related systems in the new Mitsubishi Electric headquarters can be conveniently operated, monitored and optimised by the MELSEC-L controller.

EVERYTHING UNDER CONTROL

Information from different protocols of the individual building management systems are visualised on a common interface on the Mitsubishi Androit Process Suite (MAPS).

FOR FAST AND SAFE SWITCHING OPERATIONS

The compact contactors have a modular energy-saving design and can easily be expanded. Installation on DIN rails and standardised terminal covers ensure user-friendly and cost-effective installation and wiring.

35 %
ENERGY AND AIR QUALITY

26 %
SUSTAINABLE SITE DEVELOPMENT

15 %
INDOOR CLIMATE

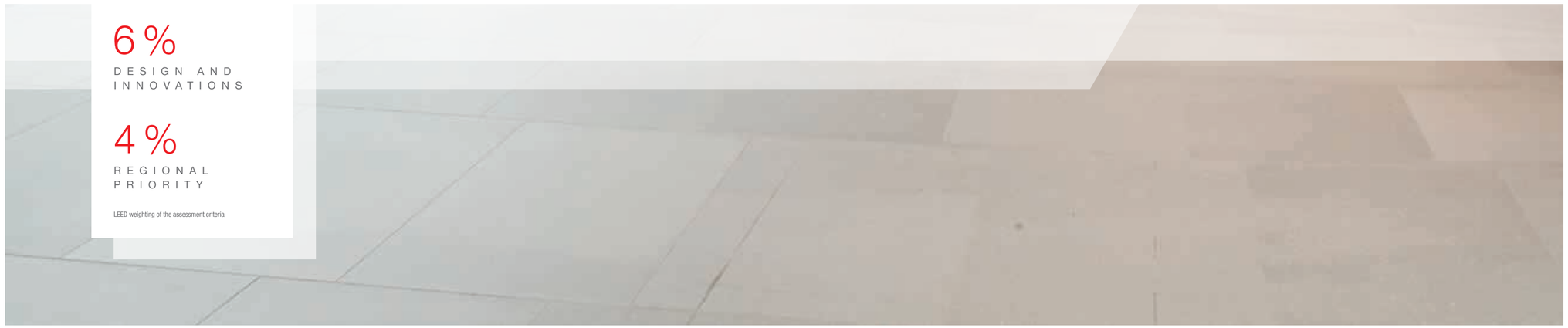
14 %
MATERIAL AND RESOURCES

AWARD-WINNING DESIGN: PLATINUM LEED CERTIFICATION//

6 %
DESIGN AND INNOVATIONS

4 %
REGIONAL PRIORITY

LEED weighting of the assessment criteria



AWARD-WINNING DESIGN

The cost of providing heating and air conditioning for a building represents a key factor when assessing an economically sustainable property. The overriding aim is to keep the energy consumption and operating costs of a building as low as possible. This applies all the more when the building is to be certified by the stringent internationally recognised LEED building certification system.

LEED (Leadership in Energy and Environmental Design) certification, developed in the USA, is an extensive catalogue of measures, which lays down standards for sustainable building in line with US benchmarks, and assesses a building over its entire life cycle. LEED rates buildings on the basis of a points system and then issues Certified / Silver / Gold or Platinum classification depending on the assessed standard.

The Platinum LEED certification for the new German headquarters of Mitsubishi Electric represents the best possible certification that can currently be achieved for a building in relation to its environmentally friendly and sustainably resourced construction.

U.S. GREEN BUILDING COUNCIL
LEED PLATINUM
USGBC

MITSUBISHI ELECTRIC
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WE LOOK FORWARD
TO YOUR VISIT.

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Our air conditioning systems and heat pumps contain fluorinated greenhouse gases R410A, R407C and R134a.
For more information, please refer to the relevant operating manuals.