



## HEITEC Digitalization stands for Innovation, Quality, and Efficiency

DIGITAL ENGINEERING & SMART FACTORY

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POWER ENGINEERING FUTURE ROADMAP

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TOGETHER WE ARE STRONG

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Dear reader,

As expected, we have started the year with a good volume of orders, and a lot of momentum.

We have been strengthened by new employees in strategically important management positions, such as in the area of digitalization.

At HEITEC, we recognized early on, that digitalization is a lever for future success and have made it an indispensable part of our business development.

With our many years of experience and our innovative solutions in the field of digital engineering and smart factory, we reduce risk, lower costs and increase quality and efficiency in the market.

Within the HEITEC Group, we continue to pursue our ambitious goals in securing the energy supply with exciting projects at home and abroad.

Furthermore, we had the pleasure to welcome visitors from all over the world to the International User Meeting of EMPIC in Erlangen.

As in previous years, we also reinforced our strong commitment to sports and social projects.

With our focus on inclusion, equality, and the promotion of young talent, we are setting the course for a long-term, sustainable future.

Kind Regards,

Richard Heindl  
President, HEITEC Group

## New faces in management positions



**Wasilis Alvanidis**

*Regional Manager South/West*

At the beginning of this year, Wasilis Alvanidis took over as Regional Manager South/West, succeeding Melchior Gentner. With his technical and commercial background, Mr. Alvanidis has invaluable, practical experience on the shop floor. After his training as a technician at Bosch Packaging (now Syntegon Technology), he was able to gain initial experience in automation technologies at HEITEC in 2009.



**Tim Albuschies**

*Head of Automation, Erlangen*

Tim Albuschies took over from Peter Baumüller as Head of Automation in Erlangen in January. With his extensive experience in hardware planning, application know-how, his profound knowledge of special machine construction and the pharmaceutical market, he sets the strategic direction for the product portfolio and leads a team of 30. After graduating with a degree in mechatronics engineering, he began his career as a software and hardware developer and worked as a subproject manager at Loesch Verpackungstechnik Piepenbrock AG.



**Ali Karim**

*Head of Digitalization*

Ali Karim joined HEITEC AG at the beginning of the year as Head of Digitalization. The electrical engineering graduate wrote his master's thesis in the field of digital engineering and automation at HEITEC's Crailsheim branch office. Afterwards he started his doctorate at the ISW at the University of Stuttgart. In 2018, he moved to HAINBUCH GmbH, where he worked as Division Manager of Technology and Automation. Ali Karim is looking forward to the challenges of digitalization, and would like to contribute his knowledge and experience to further increase the market appeal of HEITEC AG. In doing so, he is focusing above all on standardization, modularization, and less complex engineering processes.

## Fast, easy, and cost-efficient digitalization

HEITEC recognized the benefits of digitalization early on and has built up profound experience and knowledge in the field of digital engineering and smart factory over the past 15 years. Digitalization is a fundamental component of our strategy, and spans across all business areas of HEITEC.

**At HEITEC, we are constantly expanding our range of digitalization solutions. In doing so, we not only focus on the development of new technologies, but also leverage the potential of existing, modern technologies for maximum efficiency.**

*Michael Frieß, CEO of HEITEC AG*

**We use all the advantages of digital planning and virtual commissioning with the appropriate tools and extensive simulations to identify optimization potential and provide high-quality solutions quickly and reliably. This takes you from the virtual model to the digital twin and, as a result, to commissioning without impairments.**

*Ali Karim, Head of Digitalization*



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At one of our automotive clients, our digital model and the simulation of the assembly process helped to uncover the optimization potential in terms of cycle time and availability of the entire line

**Machine and system designs have to be done faster, without compromising on quality or raising costs – despite increasing complexity. HEITEC solutions contribute significantly to risk minimization with an earlier and more stable production start at the same time.**

*André Neumann, Head of Digital Engineering*  
*Stefan Uhlmann, Head of Digital Engineering Development*

**HEITEC connects existing and new plants both horizontally as well as vertically. This offer is rounded off by solutions for OT cyber security, so that our customers can not only produce more efficiently, but also more securely.**

*Michael Rögner, Head of Smart Factory*

## Digital engineering minimizes risk and reduces costs

**Today's machine and plant engineering demands cost-efficient, reusable development services to achieve a short time-to-market, as well as a faster ROI.**

We meet these requirements with:

- › more than 15 years of know-how
- › our own highly specialized libraries, and the
- › use of the latest technologies

A large number of successful projects provide our customers with a considerable increase in efficiency and quality:

- › cost reduction
- › risk minimization during testing
- › early fault detection
- › improved software quality
- › reduced commissioning time

## Virtual installation and assembly counteracts supply bottlenecks and costly delays

**Due to supply bottlenecks during the corona pandemic, many machines could not be fully assembled and put into operation. The complete assembly could only take place live and on site. In order to be able to commission a machine beforehand, HEITEC created complete digital models.**

These were used to kickstart installation until the machine could be delivered. Once delivered, the installation could be carried out on the actual machines. By using a digital model, installation and delivery could be accelerated significantly.



© HEITEC PTS

Virtual installation on digital model accelerates delivery.

## HEITEC develops innovative Smart Factory solutions – also via app!

With the HEITEC Solution Center we will offer a scalable solution, connecting cyber-physical systems from OT with IT systems in the future. A web-based user interface allows access at any time without the need for additional software. The customer decides whether the installation is in the cloud or on site. Individual functions can be booked as features to increase operational efficiency and reduce production costs.

### HeiFactory Machine Viewer App

We have developed this app to identify measures for machine-endowed process optimization. The app collects data on machine status, order status and error occurrence, is a shift manager and maintenance indicator, and shows hidden potentials of a machine.

### HeiEnergy App

With the HeiEnergy app developed by us, the CO<sub>2</sub> consumption in production – per commodity produced – can be measured. All media consumptions can be measured and monitored.



## Success story in battery assembly lines for e-vehicles



**HeiTpm IDX** is a software development from HEITEC and forms the bridge between the machines on the shop floor and the IT world in the company.

For more than 10 years, IDX has been in use successfully at an automotive parts manufacturer. It serves as a link between the controls of the individual assembly station and the higher-level quality assurance system. This means that every production batch can be traced and compliance with the high production standards can be permanently verified.

## Strong partnerships round off our digitalization portfolio



Combining ISG's scientific approach with the "virtuos" simulation platform and HEITEC's practical approach, we achieve a high level of standardization.



As a member of the "Industrial Digital Twin Association", we are involved in the standardization of digital twins.



**OT Cyber Security:** since the beginning of the year, HEITEC has been the official IRMA<sup>®</sup> system partner of VIDEC Data Engineering GmbH.

## HEITEC Innovations GmbH starts a large project with Nürnberger Messe: General planning for the most powerful hybrid power plant in Bavaria

**HEITEC Innovations GmbH („HIG“) takes over the general planning and supervision of construction to realize the supply of sustainable supply for the Nuremberg Trade Fair („NM“) by 2028. The project includes the development of a hybrid energy power plant using various innovative technologies.**

The implementation includes an integrated supply of electricity, heat, cooling, and hydrogen. With the help of a digital twin, a model-based energy management system with real-time optimization will be created. The following technologies will be evaluated and implemented – as applicable:

- › Photovoltaic and battery storage on the roof
- › Biomass / waste wood gas, storage, and utilization (CHP)
- › Hydrogen production, storage (pressure & LOHC), and utilization
- › Environmental heat sources with heat/ice storage
- › New automation and control concept incl. medium-voltage ring



Martin Bieneck (HIG), Gerald Weiß (NM), Dr. Jochen Lorz (HIG), Nico Karg (HIG), Mario Böer (NM) at the first module laying for the hybrid power plant

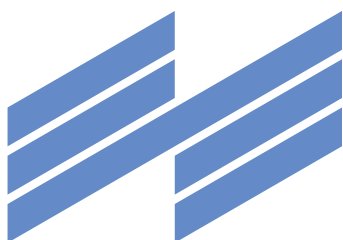


## Project with Messe München: Concept for CO<sub>2</sub>-neutral energy supply

**HEITEC Innovations GmbH was commissioned by Messe München to prepare a simulation-based feasibility study to evaluate CO<sub>2</sub>-neutral supply based on a hybrid energy systems (electricity/heating/cooling/hydrogen).**

The components of the simulation-based feasibility study are structured as follows:

- › Simulation via technologies and load profiles
- › Photovoltaic and battery storage
- › Temperature
- › Hydrogen as storage and natural gas substitute
- › Cost-effectiveness evaluation (ROI)
- › System optimization and optimal technology mix



**MESSE  
MÜNCHEN**

## HEITEC Innovations GmbH launches milestone project with Austrian Post to re-use its own e-vehicle batteries

**This project, carried out by various entities of the HEITEC Group, encompasses the following:**

- › Disassembling the batteries at the University of Bayreuth
- › Testing and sorting the battery modules
- › Transport to HEITEC, Eckental and assembly of prototype battery storage cabinets
- › Qualification and certification of the storage units
- › Moving to the site of operation at Austrian Post (e-charging station buffer; photovoltaic storage)



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Sustainable battery storage systems are developed from used e-vehicle batteries

## EMPIC counts 33 Nations as its customers

**Under the leadership of CEO Jörg Kottenbrink, the annual user meeting took place in Erlangen in April and was attended by over 80 customer representatives from numerous nations.**

EMPIC was founded more than 20 years ago and is today the global market leader for "safety-oversight" standard software for aviation authorities.



© EMPIC

Managing Director Jörg Kottenbrink impressed his visitors in Lederhosen

## HCE and HEITEC support Lebenshilfe on Inclusion Day

This special day, dedicated to fostering inclusion, demonstrates the unifying power of sports. For many years, HEITEC has supported sport clubs – starting with youth teams and stretching to professional leagues.

Together with HCE, HEITEC took care of the physical well-being of children from Lebenshilfe. Lebenshilfe is a fantastic organization that supports people with disabilities and their families.



At HCE's home game against Magdeburg, the children came from Nuremberg's Lebenshilfe organization

## Lions Club charity run: HEITEC runs for a good cause

The Erlangen charity run took place for the 10th time this year. The main objective is to sustainably promote the integration of children through sports via the “Leo-Lions Sportkids” project.

HEITEC has been supporting this important event for many years. We are pleased to have been part of it again this year!



Sebastian Firnhaber: Successful in sports and academia

## HEITEC promotes future talent

We congratulate Sebastian Firnhaber (captain of HC Erlangen) for handing in his master thesis in the field of industrial engineering. With the topic:

Model-based demand-side management of renewable energy systems, Sebastian developed the scientific basis at the FAPS chair (FAU) and at HEITEC Innovations GmbH.

It is worth noting that while enrolled in a degree programme, top athletes like Sebastian have to train 4-5 times a week and compete on weekends – this requires a lot of energy, stamina, and strength of character. A remarkable achievement!

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