



imotion

Time goes by very quickly and since our last edition we have some great stories to tell you! We will begin with an important message from Mr. Imoberdorf about the Asian market and then follow up with a customer report from our salesman,

responsible for Southern Germany. A novelty under development will then be anticipated by our CEO while the details of this challenging project will be told by our R&D department employee. You will also discover some fascinating details

about our engineering department. Finally, we will highlight the modernity of our machines thanks to the three themes chosen by our HW&SW development manager. As anticipated, this edition is full of themes!

EXHIBITIONS

'20 + '21

IMT

Brno (CZ)

5 till 9 October 2020

SIAMS

Moutier (CH)

10 till 13 November 2020

INTEC

Leipzig (DE)

2 till 5 March 2021

CIMT

Beijing (CN)

12 till 17 April 2021

DST

Schwenningen (DE)

14 till 16 April 2021

EPHJ

Geneva (CH)

15 till 18 June 2021

EDITORIAL

Dear ladies and gentlemen,
Dear customers,

To start this *imotion* with a bang, we are pleased to announce that due to the ever-increasing demand in the Asian region, we have founded in March 2020 a new company near Shanghai: IMO TECH (JIAXING) CO. LTD.

This new entity is headed by Bruce Chang as CEO and Bryan Zhang as Sales Manager. Their goals are to build all machines for the Asian market, to guarantee customer proximity and to efficiently cover service and spare parts requirements.

To remain true to our philosophy and thus guarantee the very high level of quality and precision of our products

in this market, project management, technological developments and key components will remain of Swiss origin. With this small expansion, we are convinced that we can offer the Asian market a more efficient, simple and balanced presence.

In general, we are also heavily investing and modernizing our site in Switzerland so that we can meet all the future challenges.

Now we wish you a pleasant reading and thank you warmly for your interest and trust.



by Anton Imoberdorf
CEO

CUSTOMER REPORT - FORESTADENT

Our customer, Bernhard Förster GmbH, FORESTADENT from Pforzheim in the Black Forest, is a fourth-generation family business (founded in 1907) active in the dental and medical sector with around 300 employees.

Due to increasing cost pressure, higher quality requirements as well as the large number of different parts, Forestadent was forced to look for new production processes. This involved the complete machining of high-quality medical stainless-steel profile bars for expansion bolts. The entire process had to be carried out unmanned and fully automated.

The instructions were as follows:

- 3 different part numbers (dimension approx. 4x8mm) and a further 50 to be tested for feasibility
- Cycle times that last only a few seconds
- Adjustment times for switching from one reference to another between 0.5 and 2.0 hours
- The space available for the machine was very limited

The challenge was to design a very compact and highly productive system for large series production that is also capable of producing small quantities at low cost with short cycle times. Consistently high quality was of course the common denominator.

Our solution concept:

- Use the « zero point » centering interface for clamping to quickly change from one reference to the other
- Clamping with two short bars for fast and complete machining
- Tool changer to reduce downtime
- All machining axes are programmable and CNC
- Optional 5-axis units equipped with a tool changer for future requirements
- System with automatic table for in-process control (statistical process control)
- Stand-alone bar loader with fully automatic short bar (patented) saw
- Extremely compact design with spatial distribution of the auxiliary aggregates

Thanks to all the measures taken and a close and trusting cooperation throughout the project, we were able to meet all the client's wishes. For a project of this magnitude this is essential and otherwise impossible.

We can be proud of the jointly achieved concept. The family business in the Black Forest is now ready to meet the ever-increasing wishes and requirements of the market without having to build up large stocks.



by Georg Hourmuzis
Sales Southern Germany / Austria

A NEW MACHINING SOLUTION FOR BIG AND SMALL

imoberdorf will introduce an additional machining solution in 2021 to meet the needs of our customers in a constantly changing market.

Different from the three current platforms, it will be particularly distinguished by its efficiency, high flexibility and unique modularity.

More compact and economical, this new concept will integrate some of our existing top technologies and will be positioned between a « transfer » type machine and a « machining center ». From our point of view, therefore, it is not only a question of going back to our initial origins by offering a smaller platform, but also of proposing a new solution that will reduce the insecurity associated with large investments.

« We are proud to have found a machining solution that will meet the needs of small, medium and large companies while respecting the *imoberdorf* spirit: excellence without compromise. »



by Anton Imoberdorf
CEO

« Big news coming soon! Stay tuned! »



A CHALLENGING PROJECT

« Having 20 machining stations on our small *imo-compact* platform? »

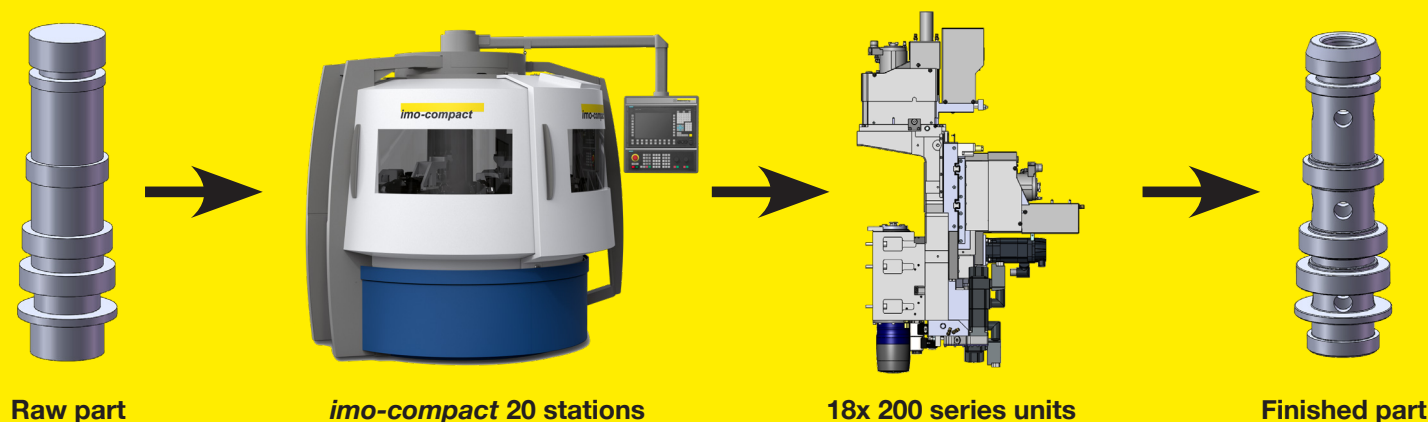
« It's just not possible! » would have been the answer a year ago. « But of course, no problem », with the 200 series we finally have a very compact, solid and precise unit for this need!

This new unit is ultimately 3 in 1 and can machine a workpiece from top, bottom and front at the same time, thus increasing the possibilities. This is a typical example of what our competent and motivated employees are capable of, by exceeding existing limits.



by Natalie Briggeler
Research/Development

Application example for family parts:



- **Production quantity:** 6 Mio parts/year
- **Cycle time:** from 2,5 to 5 s/part
- **Material:** 11SMnPb30
- **Retooling time:** < 2 hours
- **Precision:** // 0.03mm | Ø ±0.007mm
- **Machine capability:** CMK < 1.33

« Limits exist to be pushed back! »

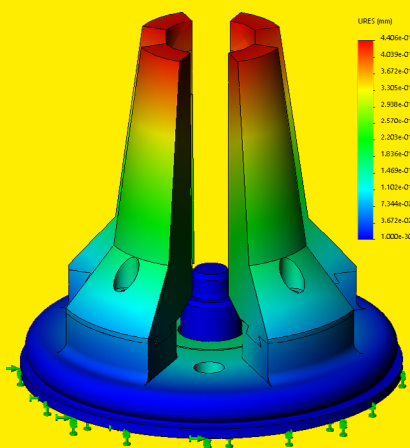
ENGINEERING REPORT

As an engineering office at *imoberdorf* we support all the departments in technical and design issues. From sales to project management including the after-sales service; all these domains benefit from our know-how.

Already at the quotation stage our team of engineers is involved in finding visual answers for our customers. The illustration of each processing step simplifies the evaluation and observation of the procedure. Our main objective is to analyze the machining steps concerning the customer's part. The analysis starts with the correct handling of the part and continues with the development of the special clamping. It then ends with the study of specific tools to optimize the cycle time.

Throughout the project, we provide the project manager with all the necessary resources to meet the deadline for each milestone. Whether they are designers, technicians or engineers, our employees are used to solving complex problems pragmatically and quickly. There are no taboos in the manufacturing processes we use. For example, we also use the 3D printing process to produce complex parts installed in our machines.

To keep our team of engineers up to date, we offer and support on-the-job training as well as internal and external training courses. We also believe in the next generation and train our own manufacturers.



With SolidWorks, an internationally widespread software, our team develops very precise constructions. Already at the designing phase our specialists analyze critical components with the help of FEM simulations and if necessary, the calculated models are verified with concrete tests.

Complex machining processes can be carried out on our test facilities to check the process capability. The tests are carried out by competent employees with experience in construction and machining. Customers appreciate this possibility and regularly order feasibility studies for future serial parts. Confirming the feasibility allows customers to confidently validate the investment for an *imoberdorf* rotary transfer machine.

If the need emerges, our engineers travel directly to the customer's premises to support them with their know-how. Whether it is for process optimization, to analyze results or other purposes, we have the right specialist!

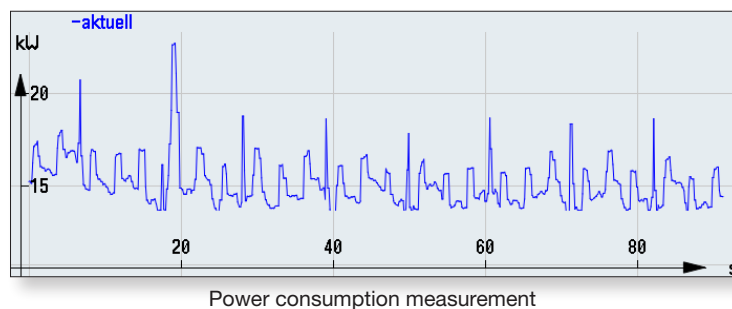


by Rolf Gerber
Team leader engineering

ENERGY EFFICIENCY CONNECTIVITY QUALITY

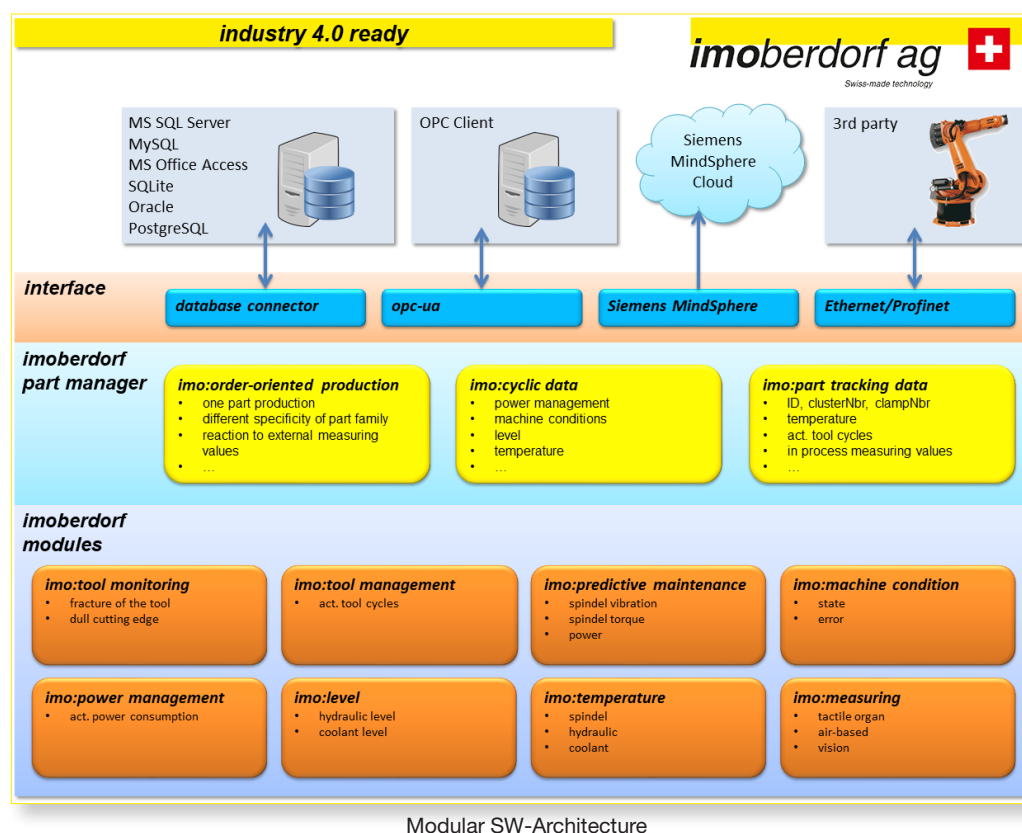
Optimal energy consumption

Energy is one of the most important cost factors in industry. Thanks to the **imoberdorf** product range, the rotary cycle systems are exactly tailored to the customer's needs in order to avoid unnecessary oversizing. The drive system used allows dynamic energy management and has an efficient power recovery system. The braking energy generated by the drives is stored temporarily or fed back into the power supply system if required. Thanks to the integrated real-time monitoring system, all information about the system can be accessed at any time. The customer can therefore easily calculate the energy consumption for each part.



Connectivity

Connecting machines to the network has become an important factor in achieving more productive and flexible manufacturing. The data generated by the machines is collected, stored, evaluated and used for quality assurance and production optimization. The status of machines, units and process data are recorded cyclically. A complex part tracking system ensures that all necessary data requested by the customer can be assigned to the corresponding part. At any time, the machining status as well as the plant status are visible on the dynamic IMO-HMI. The machine to machine communication protocol (OPC-UA) is offered as a standard interface for higher-level systems, while the standardized **imoberdorf** interface allows easy adaptation to the systems used by the customer. Connectivity to the cloud is also possible. Our machines are optimally prepared for this purpose and customer-specific adaptations are one of our great strengths.



In-process measurements

To further increase productivity, the machines can be equipped with the so-called « in-process measurement ». The measurements can be done tactile or pneumatic. Tool wear and thermal influences are detected by the system and the machining process is automatically adjusted. The measuring system can be calibrated automatically or manually. The measuring accuracy and function of the system is thus always guaranteed.

BestFit

Thanks to the « Best Fit » algorithms, it is possible to calculate the dimensions and exact position of each blank in the clamping. With this data, the machining process can be automatically adjusted and corrected to minimize and optimally distribute the material removal while increasing tool life.



by Thomas Probst
Head of HW&SW development

« Advanced solutions for modern machines »



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