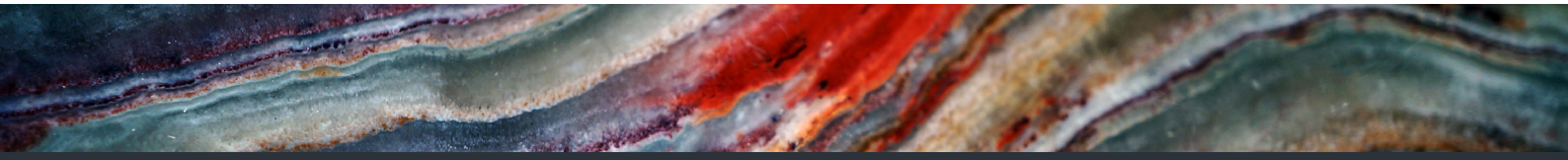
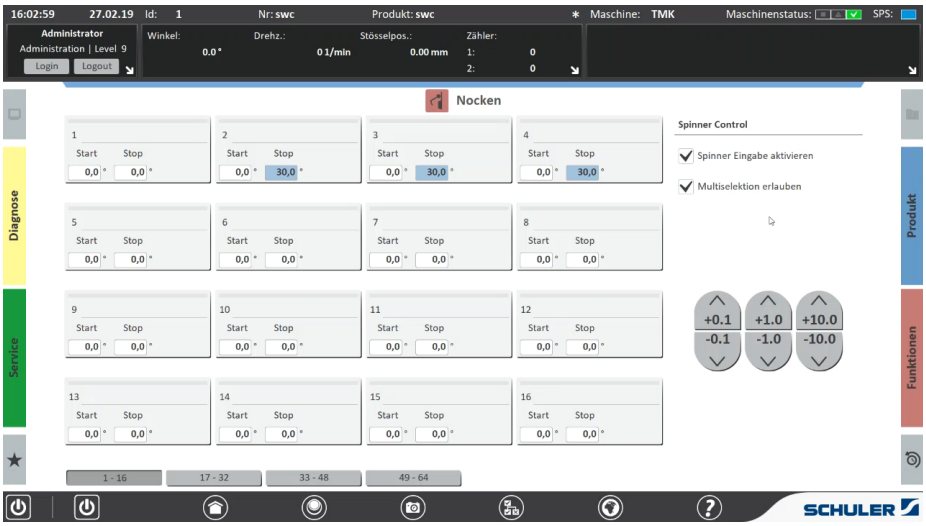
Case Study - Schuler



Schuler is the technology and world market leader in metal forming. The company offers presses, automation solutions, tools, process know-how and service for the entire metal-working industry and automotive lightweight construction.

Customers include automobile manufacturers and suppliers as well companies from the forging, household appliances, packaging, energy and electronics industry. Schuler is a leader in coin minting presses and realizes system solutions for various high-tech industries. Schuler has branches in 40 countries and, with around 6,600 employees, is majority-owned by the Austrian ANDRITZ group.



A long time collaboration

- Start 2004 Beutler Nova: operating concept, style guide, visualization
- 2005 Müller Weingarten: Integration of the style guide and visualization for several machine groups as well as for the control center operation.
- 2005 ff Further developments for the existing solutions
- 2006 Implementation of the first forging line
- 2007 Takeover of Beutler Nova and Müller Weingarten by the Schuler Group
- 2013 Development of a cross-location style guide and operating concept for the Schuler Group. Implementation of the HMI framework based on the A-VIS framework.

"Alphagate is a competent partner and reacts quickly to changing requirements. We benefit from Alphagates' many years of experience in mechanical engineering. Since the collaboration started in 2004, such a good relationship has developed that projects can be planned and implemented efficiently. "
Michael Beloch, Team leader electrical engineering PLC programming at Schuler

„Cooperation since 2004 - we are happy to be able to support the Schuler Group in many areas. The exciting developments of recent years have always brought new challenges that help us to make progress.
Ulf Oberbichler,
CEO - Alphagate

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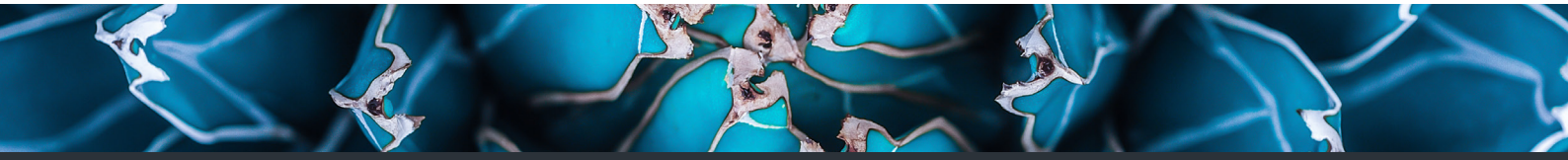
Case Study - AMT



AMT is a leading partner for innovative high-tech complete solutions and equipment solutions with a wide range of AMT products and services for a variety of applications for thermal spraying.
Thanks to AMT‘s many years of experience in the field of thermal spray applications and a good understanding of the requirements and expectations of customers, the company can offer customized systems and coating solutions at any time.

AMT presents the next generation of the MP200C controller platform. Equipped with the latest technology, the new platform is not only modern and compact, but also offers innovation and strength. The brand new user interface is elegantly designed with elements of outstanding functionality,

Executive Summary

- 4 different processes should be operated with the same concept
- Comprehensive data acquisition and analysis
- Consideration of safety and documentation regulations of machine operators (aircraft manufacturers)
- Deliberately guided navigation with the help of a “thoughtful operating concept”

Challenges

- 4 different processes create complex functionality and variants
- Archive for long-term storage of data necessary

Core issues

- Comprehensive process knowledge was developed in workshops
- A high degree of reduction desired by the customer and made possible with our competence

The A-VIS framework is open and flexible, and enables an individual system and supports rapid implementation.

Result

- A product on the market was equipped with the new solution
- Upgrade for existing machines, machines and implementation in new machines
- State of the art gesture and multi-touch control

Usability Engineering

- Coating is a complex process, the challenge was to present the essentials
- Customer open to a new design with a „hero“ element and a clear commitment to reduction and possible challenges from it
- Design consciously based on the production process (material surface, gloss)

Software Engineering

- Connection to SIEMENS TIA Portal
- Use of the A-VIS framework
- Module-based structure of the application enables individual adjustment of the operation depending on the product variant
- In the future, an open system will enable and integrate functions with new modules

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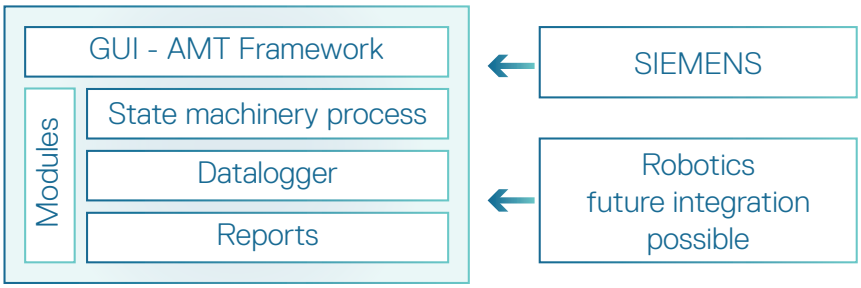


“The production processes and the possibilities of the AMT products were new to me and exciting and very educational. Although the project was complex and intensive overall, the collaboration worked very well. ”
Markus Giesinger,
Project Leader - Alphagate

“It was the customer‘s wish to go new ways in design. I think we solved that very well. It was fun to work on it. I was able to do a lot of things, some of which required a little courage from the customer. The result speaks for itself.“
Michael Brugger,
Usability design- Alphagate

Case Study - DESMA

DESMA implements turnkey, resource-saving system solutions for the production of technical rubber and silicone molded articles with injection molding machines. With innovative technologies and comprehensive service in tool making and injection molding technology, we meet the requirements of the elastomer processing industry.

Products are manufactured on DESMA systems, which are used, for example, in automobiles, ships, energy supply systems or medical devices.
In 2009 we were already able to develop a visualization for the product DRC 2020 for DESMA. The solution has been successfully used in many machines worldwide.
The successor model DRC 2030 TM should now receive an updated, state of the art operation with a larger display.

Executive Summary

Retrofit - new features from A-VIS included, new technologies are supported, connection to HTML is supported, OPCA UA
Euromap interface implemented
Show the state of the art
Usability - completely new, new controls

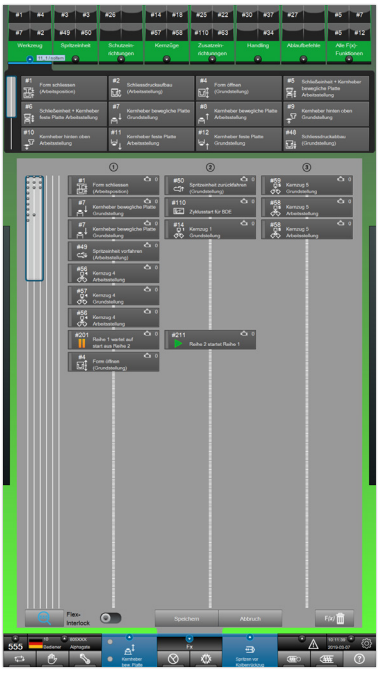
Challenges

Existing project has many functionalities
Each intervention can have several effects in the system
Multitouch enables new things, the synchronization with the existing functions is complex
OPC UA interface Euromap is complex

Core issues

Building on existing solution from AG, and process knowledge supports the implementation

The high flexibility of A-VIS and the project team enables new requirements



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Result

More modern type of operation, swipe gestures, multi-touch
Use and structure on the proven Business Logic
State of the art product for current and future technologies
Upgrading the product, sales support

Usability Engineering

- Complete redesign of the existing concept
- New graphics
- Modern operating solution
- New controls developed
- Learnings from history are taken into account
- Simplification where possible and necessary
- REDUCTION - to increase operating efficiency.

Software Engineering

- A-VIS Framework is used -
- upgrade to the latest version
- Adaptation to multitouch
- Intensive cooperation between the project partners, continuous exchange - initial - intensive reconstruction of the solution - then ongoing communication for adjustments and completion
- Filedatabase A-VIS was introduced

"The collaboration was harmonious and professional. We are pleased to be able to implement this complex project again with DESMA. We were able to successfully continue our longstanding cooperation and we look forward to future developments and projects. "
Markus Schöch,
Project Leader - Alphagate

„The DESMA project was more than just an update of the visualization. We have taken into account new functionalities and new technologies that make operation more efficient overall. In contrast to new projects, we had to think about all the effects from the new solution, very complex, but also very exciting! "
Khuslen Tsend-Ayush,
Usability design, Alphagate

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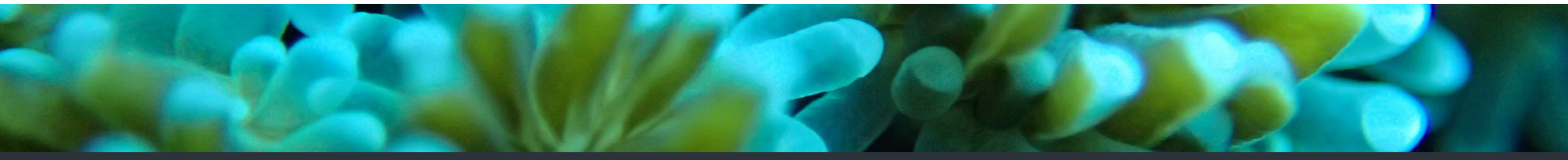
Case Study - Clever Culture Systems



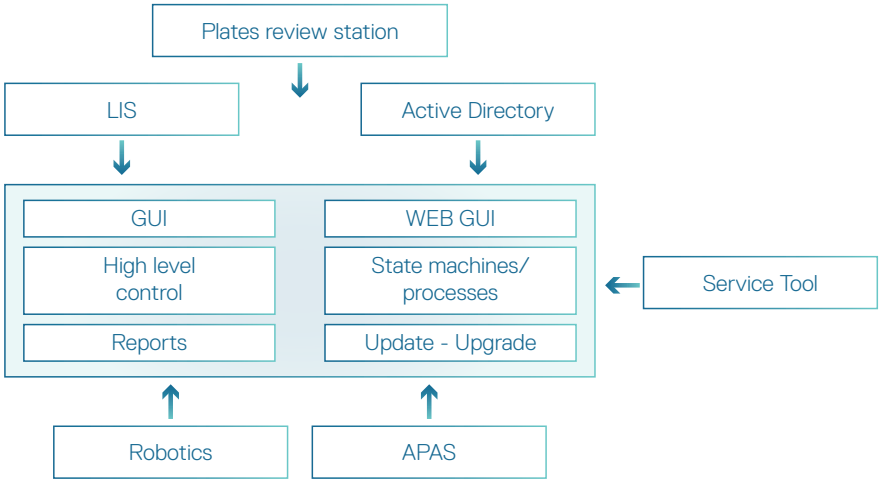
Clever Culture Systems is a joint venture of LBT Innovations and Hettich Holding Beteiligungs- und Verwaltungs-GmbH (Hettich) in Germany. Established in 2013, the landmark agreement between the two companies brings together LBT Innovations' clinical technology expertise and Hettich's hardware development skill-set to drive the commercial development and distribution of LBT's Automated Plate Assessment System (APAS).

The market-leading, innovative technology streamlines busy laboratory workflows, offering a modular approach. The APAS Independence launched in late 2017, with further modules and products, including the APAS Incubot, currently in development.

Using the innovative APAS technology, the APAS Independence is a stand-alone automated culture plate reading instrument that not only screens plates, but also sorts them into significant and insignificant growth at a rate of 200 plates per hour.

It accurately and efficiently identifies organism morphologies and quantifies growth, providing microbiologists with quality imaging and reports to review further.

It also identifies negative plates and by removing them out of the workflow, provides laboratories with more time to focus on plates of significance. With a variety of analysis modules and plate media variations available such as Urine Analysis and Infection Control/MRSA Analysis, and more being developed, laboratories only need to pay for the modules they need.



Executive Summary

- The task for Alphagate was to handle specific parts of the Usability Engineering and the Software Engineering for the „APAS Independence". The application was developed based on the very specific needs of this medical product

Challenges

- The regulatory requirements need to be fulfilled wich includes detailed documentation. Further the total project was run together with globally located teams of other companies and areas of technology

Our core competences in this project

- Our desire to know the process: In our preparation process, we long to understand the requirements of the customers process, we want to feel as part of the team. We understand what needs to be done, to be as self sufficient as possible.
- Experience in managing projects: The goods knowledge about the process enabled us to cooperate with and int. Teams when necessary
- Our product framework „A-Vis" is not limited in functionality, enables the development of an individual solution and thus supported time to market

Results

- Finalizing the projects results in an overall competitive product for the international market,
- offering state of the art technology in functionality, meeting all regulatory requirements, and in the operation of the product.

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Usability engineering

- Based on the companies CI and Styleguide we started the Usability process following the standard IEC 62366. In tight cooperation with the customer we defined:
- Use cases: We discussed intesivley the different kinds of use cases, and describe these in detail
- Design of the wireframe – where to show the content
- Navigation: One important key to a good UX/UI Design is a logical navigation. Our experience combined with the competences of our customers resulted in the exisiting navigation

Software engineering

- The IEC 62304:CLASS-B application was created based on the specific needs of the APAS – Independence
- Including the seemless connection to the Labratory Information System (LIS) using HL7
- Development process follows IEC 62304

Risk assessment

- In all areas of the project we used risk assessment to ensure the needed quality in the contents and execution of the project. The
- Risk management follows IEC 14971

„The development of software for medical applications is a challenge. The requirement to fulfil regulatory requirements whilst maintaining a focus on scheduling and budget is why working with Alphagate has been a success.
The company has seamlessly worked with the other partners involved in the development of the APAS Independence, adapting to the different development processes."
Peter Bradley,
General Manager

„The great thing about this project was firstly the good cooperation with all teams. It was very professional, and we felt that everybody was focused on the common goal. Yes, the regulatory requirements are strict, but this also assists in the efficiency in the long run, especially working with international teams. We also liked the product, its pretty cool! Being involved deeply in the process made us feel like microbiologists."
Christian Stoss,
Project leader - Alphagate

The complete development process was run by 5 international teams, the Alphagate team was divided into 6 groups:

- Project Manager
- System Engineer
- Software Architect
- Usability Engineer
- Software Engineer
- Test Engineer

Case Study - HILTI

Hilti develops technologically leading solutions and offers cutting-edge technology for machines and products, software systems and services. Hilti is at home in more than 120 countries.

Hilti offers a complete service for construction professionals: from software support during planning to tools and products on the construction site to maintenance and repair, advice and tests, as well as instruction or training.

Cut Assist - Circular saws DST-10 and DST-20, wire saw DSW-1510-CA

Electric wall saw for small to medium-sized jobs with integrated control electronics.
Hilti Cut Assist - for fully automatic cutting work with the tool.
Starts as soon as the surface is recognized, then optimizes speed, gear and water flow continuously, even when cutting reinforcing steel.
Cut Assist significantly increases productivity and creates more time for other work.

Project description

Evaluation of the feasibility with A-Vis on a given micro platform (PicoCOM 4)

On the basis of these specifications and the evaluation, an unusual route with Windows CE and the CrE-Me VM was chosen although WindowsCE mostly works with .Net.
Implementation of the operating concept specified by the customer and style guide.
The solution should be used with different Hilti saws. Currently used in DST-10,DST-20 und WS1510-CA.

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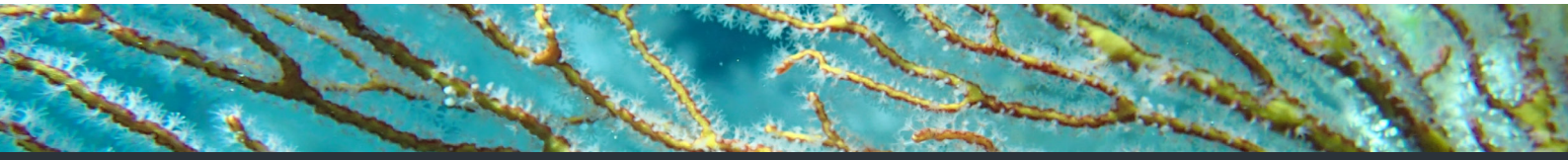
Case Study - WILD Elektronik



WILD is the most trustworthy partner in the field of optomechatronic systems in the medical technology, optical technology and industrial technology sectors. WILD develops and realizes your high-quality products and guarantees stable processes throughout the entire product life cycle.

WILD develops and produces exclusively on behalf of customers and provides customers with all results of research and development and construction.

Equisse 400

WILD developed a new type of complete device for in-vitro diagnostics, which has already received an innovation and research award and was nominated for the 2015 Austrian State Prize.

Clinical chemistry analyzers not only have to be user-friendly and fast, they must also be inexpensive. The automation of laboratory processes is becoming increasingly important, especially where large sample volumes have to be handled. WILD Electronics has taken up this challenge and developed the new biochemistry analyzer on the market.

Executive summary

Alphagate's task was to handle certain parts of usability engineering and software engineering for the „Equisse Analyzer"
The application was developed based on the very specific requirements of this IVD product.

Challenges

The regulatory requirements must be met and contain detailed documentation. Treat highly dynamic and constant changes in requirements.

Usability engineering

- Based on the company's CI and style guide, we started the usability process in accordance with the IEC 62366 standard. In close cooperation with the customer, we have defined the following:
- Use cases: We discussed the different types of use cases in detail and described them in detail
- Design of the wireframe - display of the content
- Navigation: An important key to a good UX/UI Design is logical navigation. Our experience combined with the skills of our customers led to the existing navigation.

Software engineering

- The application IEC 62304:
  CLASS-B was created based on the specific requirements of the Equisse
- Including the seamless connection to the Labratory Information System (LIS) via HL7
- The development process follows IEC 62304
- Development of a mathematical library for biochemistry
- Development of the quality assurance function

Risk assessment

- In all areas of the project, we applied risk assessment to ensure the quality required for the content and implementation of the project.
- Risk management follows IEC 14971

This project was the first joint project between us and Wild. It ended that year. We have been working closely together since 2013 and feel very comfortable in all areas. It's just fun to bring such great products to the market with Wild. I am looking forward to the upcoming projects.
Christian Stoss,
Project manager - Alphagate

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