PRISMA

The WILD Group magazine

DEVELOPMENT AND PRODUCTION

CONCERTED PROJECT SUCCESS

WILD PHOTONIC

Teamwork is speed: roadmap to a finished product. 3

Our ISO 14001 – Your key to lasting success. 6

Where complexity begins, the WILD Group excels. 7

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INNOVATION REQUIRES SPEED AND CLEAR STRUCTURES.

Michael Reissig
Head of Development
WILD GmbH und
WILD Electronics

Many companies are familiar with the dilemma: good ideas get lost in long development cycles, costs spiral out of control and ultimately products are late to market. What is often lacking is not innovation power but clear structures that guarantee both speed and quality. This is precisely where the WILD Group puts the emphasis – using a process that makes complexity manageable and consistently transforms ideas into marketable products.

Our claim is clear and our objectives are fully aligned with those of our customers: we want to bring products to series production as quickly as possible. This is why we fill skill gaps, make precise additions to our development teams and ensure that business case and time to market match. This clearly sets us apart from conventional development service providers.

We achieve that by doing things simultaneously from the very beginning: we don't put industrialisation last, we address it right away. Crucial issues are not postponed; they are sorted out at the start – with the involvement of all stakeholders. Short intervals between development and production and a close collaboration with the teams who will do the real manufacturing later help us achieve both speed and stability. The result is the creation of a development culture that doesn't measure in hours but in functioning products. Our product development process, which we present in this issue, creates the framework for all this.

Yet for us innovation is not just speed and efficiency but also a safe approach to complex requirements and a consistent regard for sustainability. Check our reports "Clean-up" (page 6) and "We thrive on complexity" (page 7) to find out how we approach these topics.

Michael Reissig

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FAST-TRACKING INNOVATION TO MARKET.

WILD has become an accelerator for innovation projects thanks to a clearly defined product development process, agile methods and strong partnerships. After all, complex product development thrives in an environment where speed is systematic.

When developing complex high-tech products, innovation power is not everything. What is really essential is the ability to take a solid idea and turn it into a marketable product in a reliable and efficient way, and in the shortest time possible. This is precisely the focus of the WILD Group's industrial engineering process, which it has consistently modernised and parallelised in recent years. The objective is to bring customer products to serial production quickly and cost-efficiently, without detours and without "happy engineering".

FROM AN IDEA TO A SERIAL PRODUCT

WILD accompanies product developments in five structured phases: pre-project, concept, design, realisation, and transfer to series. The entire process is geared towards efficiency and transparency. Being a development and manufacturing partner, it is in WILD's very own interest to bring customer products to serial production quickly and reliably. "We place our focus on targeted, value-oriented engineering. We are therefore not in competition with our internal development department but instead a meaningful addition to it. That is why we involve all relevant disciplines already during the first workshops, allowing us to assess product ideas from different perspectives. We systematically establish the requirements during the pre-project phase, further refining them in each subsequent phase. Quality gates and clear checklists help ensure that we avoid unnecessary delays and costs. Only those products that have a valid business case and pass the feasibility test will be cleared for the concept phase after pre-project. This brings forth resilient concepts, for which manufacturability, assembly cost and process risks have been timely taken into account, the focus remaining on the business case", stresses Michael Reissig, Head of Development at WILD. This intensive parallelisation guarantees short development times, saves costs and increases the quality of implementation. ▶

PHASE 0
BUSINESS CASE

PHASE 1
CONCEPT

RESEARCH ANALYTICS | **VALIDATION** | **IDEATION** | **REQUIREMENT** | **PRODUCT ARCHITECTURE**

PHASE 0: PRE-PROJECT

THE BUSINESS CASE GETS A REALITY CHECK

Before a project begins, the engineering team gets together with the customer and discusses whether their idea is feasible. WILD usually lays the cornerstone for successful projects in workshops, often with the involvement of partners such as the research centre Silicon Austria Labs (SAL) or the Graz University of Technology. Together, they carry out the requirement management and an analysis of funding options to hedge technical risks.

> **Only designers who are familiar with market requirements and user expectations, can come up with suitable solutions and, ultimately, generate excitement.**
> *Marc Ruta, CEO WILDDESIGN*

Another welcome guest during this early phase is WILDDESIGN, a globally operating design agency focusing on medical design and usability. "Only designers who are familiar with market requirements and user expectations, and who are allowed to contribute to the development process as early as possible can come up with suitable solutions and, ultimately, generate excitement. With its extensive expertise and long-standing experience, WILDDESIGN bolsters WILD's development process in the area of user interface and casing design", explains WILDDESIGN CEO Marc Ruta.

A current example is a Japanese industrial group that is work together with WILD on adapting an optical measuring instrument that has so far only been sold in Asia to the European market. "The requirements of European users differ from the previous concept. That is why we scrutinise numerous details together with WILDDESIGN and develop a new, user-centred design that forms the basis for the entire subsequent product definition", says Michael Reissig.

PHASE 1: CONCEPT

OBJECTIVE ASSESSMENT OF THE REQUIREMENTS

The concept phase is equally crucial. "As a rule, over 80% of the production costs are defined in the early phases of product development. A-samples and B-samples of the product already result in design decisions that will have a direct impact on the serial production costs", stresses Manfred Ninaus, Value Manager at the Graz University of Technology. Therefore, there's a joint effort to establish at a very early stage which functions actually deliver a true added value, which requirements are critical for a device's function and business case and what an economically viable solution could look like. "The premise here is to understand how important a function is to the customer – that is, in terms of functionality in proportion to the cost of the function", Ninaus explains. To achieve that, a method has been developed using the VMCoach software platform to evaluate every optimisation idea as to its cost-saving potential AND its impact on customer benefit.

"Together with Manfred Ninaus, for instance, we were able to identify a 40% cost-saving potential in connection with an optical device for the semiconductor industry because we consistently questioned each function with regard to its actual customer value," recalls Michael Reissig. Moreover, "thanks to our agile value engineering approach and the use of the AI-based VMCoach platform, it took us only three days to highlight various possible solutions in interdisciplinary team workshops," says Ninaus.

WILD PHOTONIC

PHASE 2
PRODUCT DEVELOPMENT

PHASE 3
PROCESS DEVELOPMENT

PHASE 4
PRODUCTION

DESIGN | **REALISATION** | **PROTOTYPE** | **PRE-SERIES** | **FIRST SERIES** | **MARKET RAMP-UP** | **MARKET PHASE**

Another example cited by Reissig is a spectrometer, for which the customer defined the product and process requirements together with WILD very early during the concept phase. "We asked ourselves: How does that impact the manufacturing process? How will we eventually manage to achieve the envisaged costs? Using tools like Codebeamer, we developed a professional methodology to identify stakeholder requirements early on and to break them down to system and process requirements – right down to the requirements at the planned manufacturing location, including risk analysis and FMEAs", says Reissig. This central tool keeps record of requirements, risks and changes throughout all five phases. It guarantees traceability and, in the case of adjustments, renders the technical impact visible to everyone."

PHASE 2: DESIGN

SIMULTANEOUS ENGINEERING STEPS UP THE PACE

WILD applies simultaneous engineering at the very beginning of a project: Development, production and test processes run in parallel – not in sequence. Whilst creating the initial CAD data, WILD also develops assembly concepts, risk assessments, logistics operations and test strategies.

> **Our engineering helps us introduce agility into our projects, making the high complexity often encountered more manageable.**
> *Wolfgang Warum, CTO WILD Group*

PHASE 3: REALISATION

VERIFICATION OVER IMPROVISATION

As soon as the design phase is completed, it is followed by realisation – including prototyping, verification, test system analysis, product verification and process validation. This is where systematic documentation plays out its strengths: Changes are completely traceable and the impact on other areas is transparent at all times.

PHASE 4: TRANSFER TO SERIES

WHEN EVERYTHING ADDS UP

The final phase involves the transition to production. Validation data, process capabilities, packaging concepts and customer feedback flow into series production release. The objective is a stable, cost-optimised serial product – with reliable planning for volumes, ramp-ups and life cycle management.

STAYING AGILE

It is essential for the WILD Group to have a seamless, audited process that helps its customers navigate safely and quickly through all phases of product creation. Aided by clear checkpoints, an intelligent tool and IT landscape, as well as strong partners. "Our engineering is not a rigid construct but an agile framework. It helps us introduce agility into our projects, making the high complexity often encountered more manageable. We can thus give our customers the certainty that they will remain within the predefined deadlines, costs and quality requirements", emphasises WILD Group CTO Wolfgang Warum.

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CLEAN-UP.

Sustainability has been an everyday practice throughout the WILD Group for decades. Now it has been officially certified under the ISO 14001 environmental management standard.

"Structures, processes, and projects that meet the requirements of ISO 14001 have long been in place. Certification was simply the logical next step towards documenting our commitment in a transparent way and demonstrating that WILD's environmental management applies throughout the entire group, is systematically embedded and delivers measurable results", explains Head of Environmental Management Alfred Michalek.

PROGRESS ALONG THE ENTIRE VALUE CHAIN

In Völkermarkt, for instance, WILD has optimised the internal processing of eloxal baths. By installing a neutralisation unit, a significant reduction of hazardous waste has been achieved. The water recovered in the process is discharged into the sewage network in a controlled manner, and the remaining electroplating sludge is properly disposed of. In addition, thanks to the alternative process chemicals now used, the amount of sodium cyanide produced during chemical nickel plating was significantly reduced.

> **"Structures, processes, and projects that meet the requirements of ISO 14001 have long been in place.**
> *Alfred Michalek,* Head of Environmental Management *WILD Group*

WILD also means business with regard to resource management: a 4% reduction in electricity consumption, a gradual conversion of the company fleet towards e-mobility and new packaging guidelines for suppliers aimed at reducing plastics and increasing the rate of recycling have been implemented.

NEW TOOLS FOR GREATER TRANSPARENCY

New digital tools enhance both traceability and legal certainty and represent important building blocks in ESG management. One of the central topics is tracking and reducing CO_2 emissions in an effort to continuously reduce the group's ecological footprint. The basis for assessing WILD's impact on climate change is the climate risk analysis, accompanied by a comprehensive materiality analysis. Part of the data required for sustainability reporting comes from the EnergieMonitor software, which measures energy consumption at the Völkermarkt site in real time. In addition, the Power BI software analyses large amounts of data and compiles it for use in sustainability decision-making – an essential tool towards the targeted optimisation of systems and processes.

WILD's environmental management system is an essential governance tool that helps meet ecological requirements across the group's sites, and which translates into clear benefits for customers: manufacturing done is in compliance with the latest environmental standards, thus minimising environmental and compliance risks, making processes more efficient and improving sustainability performance in a measurable way. Drawing on the positive audit and the ISO 14001 certification, WILD has already initiated further steps, including better communication of its environmental targets, the implementation of an internal reporting on environmental performance and a targeted incorporation of sustainability aspects in the product realization process.

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WE THRIVE ON COMPLEXITY.

The more demanding requirements grow, the clearer WILD's edge becomes: technical superiority, process intelligence and uncompromising precision.

27 individual operations, precisely adjusted measurement equipment, specialised fixtures and two months of lead time: it is often unassuming components like a hydraulic cylinder for a prosthetic leg which require flawless processing, seamless control and precisely coordinated processes between machining, surface treatment, measurement technology and assembly.

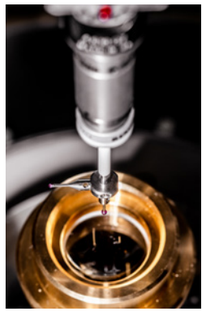
"Complexity begins where precision, purity and process stability are required simultaneously – over several weeks", explains Christian Rabitsch, Managing Director of WILD GmbH. In practice, this translates into demanding geometries with undercuts and freeform surfaces, minimum tolerances at sub-micrometre level and materials like titanium, high-alloy stainless steels or invar, whose processing requires very specific know-how.

At WILD, these are everyday challenges. Be it cutter heads for industrial lasers, optical assemblies for sensor technology or high-purity systems for mass spectroscopy: Völkermarkt manufactures under conditions that push conventional production to its limits. The company's strength lies in its structured mastering of technically complex challenges, ranging from material expertise and special workholding technology to validated final cleaning before transport into the cleanroom, or the wet-on-wet manufacturing of high-purity components.

A perfect coordination of all disciplines is essential in guaranteeing this quality. "We can master such challenges because we keep the entire process chain in-house", Rabitsch stresses. Every component embodies the company's knowledge of materials and geometry in CNC manufacturing and surface treatment, process-specific measurement equipment, individual workholding design and controlled cleaning steps. The result is reproducible excellence in compliance with the most stringent standards and criteria.

A PRECISION MASTERCLASS

These qualities are also in demand for a high-alloy stainless steel part that WILD manufactures for a renowned provider of lithography systems. Sub-micrometre tolerances, internal structures, galvanic coating – very often, a margin of just a few micrometres remains after pre-final dimension processing. "Such components can only be reproduced reliably using a combination of electroplating groundwork, material competence, and precise handling", Rabitsch explains. "Our teams are specifically trained and put together from different disciplines. This makes us a one-stop shop for complex systems."



Strong feedback.

As demand for high-quality special optical solutions rises, technology partner WILD is attracting ever more interest.

This was recently illustrated by the strong attention received by the company at the leading international trade fair LASER World of PHOTONICS in Munich. The WILD Group was exhibiting together with Photonics Austria in an international environment teeming with quality and technological prowess.

"Fortunately, many of our conversations led directly to specific enquiries", says Stefan Werkl, Head of Business Unit Optical Technologies. This strongly reflects the increasing importance of optomechatronic solutions. International professionals were particularly interested in innovative optical components and systems featuring optics created with alignment turning. "This combination of expertise in fine mechanics, optical precision and manufacturing flexibility won us a lot of positive feedback", says Martina Trinkel from Business Development.

The team's takeaway was that the trade fair reaped particularly valuable contacts. Martina Trinkel adds: "The solutions we presented stood out because of their technological sophistication, process safety and their ability to integrate into complex systems – and that is exactly where we see the key for successful partnerships in the future."

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THE WILD GROUP

The WILD Group is comprised of the WILD brands which are established in Völkermarkt and Wernberg (Austria) and Trnava (Slovakia), as well as Vienna-based PHOTONIC. The technology partner develops and produces optomechatronic systems for medical and industrial applications as well as optical technologies exclusively on behalf of its customers. Approximately 500 staff members are always the first choice whenever precision and reliability are called for and wherever innovation takes place.