
Our services for industry





IPH – Institut für Integrierte Produktion Hannover
gemeinnützige Gesellschaft mit beschränkter Haftung

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IPH: service provider for industry

Are you looking for a customized solution to your production challenges? Thanks to our cross-industry experience and our interdisciplinary approach, we can respond precisely to your needs.

According to our areas of expertise, we offer different service modules from which you can compile packages of services

according to your needs. This allows us to solve your individual challenges with tried and tested practices.

More detailed information can be found on the following pages as well as on the Internet: www.iph-hannover.de/en/services/overview. You can also find the right person there who would be happy to make you an offer.

Our areas of expertise include



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Research & Development and Consulting

We provide practical research in the field of engineering and turn know-how into efficient solutions. Continuous high-level research is the basis of our high-quality consulting services. Through research and

developmental work, we steadily extend our knowledge of production engineering.

Cooperating with other research facilities enables a manifold exchange and the establishment of new scientific approaches.



To manufacturing companies, we offer various ways of cooperation: If you need a solution tailored to the individual needs of your company, we suggest our *consulting services* - also in cooperation with external consultants. You are interested in a particular research topic? We are glad to develop strategic innovations just for you (*contract research*).

Companies of specific branches or supply chains often face the same problems. *Collaborative research* can help you and your

partners to respond to challenges.

You want to be the first to benefit from new technologies about to hit the market? Our portfolio also includes *pilot applications*. If you wish to obtain information on new application-oriented developments on a regular basis, we suggest *project monitoring*.

With little effort, you can also learn about tomorrow's technologies first: Join in our *basic research* to get the latest information about a particular research project.

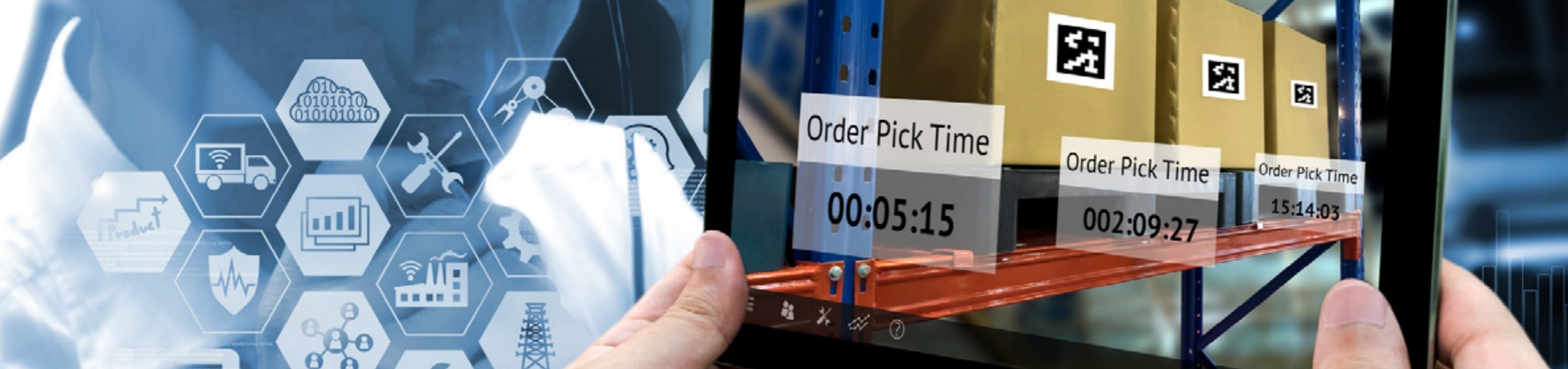
Our profile

IPH – Institut für Integrierte Produktion Hannover GmbH is a production technology service provider. Research and development, consulting and training are our focal points.

Under the leadership of the three shareholders and professors Ludger Overmeyer, Bernd-Arno Behrens and Peter Nyhuis (photo, from left), we are constantly working on the further development and implementation of new and innovative ideas in the fields of process technology, production

automation and logistics. In addition, we are pioneers in the field of the production of XXL products.

We see ourselves as mediators between theory and practice. Our solutions are created in interdisciplinary teams. Mechanical and industrial engineers, commercial computer scientists, technical business managers and technicians – together we are able to develop innovative solutions and also integrate unconventional ideas in our work.









Automation technology

We have extensive knowledge of innovative concepts and solutions in automation technology.

With your input, we will create a customized, vendor-independent automation solution for your application – from the assessment of the process with respect to the degree of automation to the selection

and implementation support of automation solutions. Whether you want an objective assessment of how your production can be economically automated and what improvements are possible, or whether you want to completely automate manual processes, we would be happy to consult you.

We offer the following service modules

Analysis of production processes		Assessment & selection of automation scenarios	
Development of automation scenarios		Vendor selection	
Material flow simulation		Implementation support of automation solutions	

Our service packages

You want to automate a manual manufacturing process? You are uncertain as to what degree of automation makes sense? You lack the time for a systematic

analysis and the development of technically and economically optimal automation concepts? Then we would be happy to support you.

Assessment of the degree of automation



Automation study



Development and introduction of automation solutions



"The experts at IPH have created a comprehensive automation concept for us. This enabled us to assess very well what is technically feasible - and what costs we would have to incur in implementing it."

Bernhard Wilken, Managing Director,
WILCO Wilken Lasertechnik GmbH & Co. KG










Digitalisation

In order to increase the efficiency, productivity and quality of industrial production, companies are faced with the challenge of increasing their degree of digitalisation. As a service provider, we develop digitalisation concepts and support the selection of digitalisation solution providers.

Our digitalisation services include the selection of product identification systems, assistance systems or business information systems. Our approach is based on the latest research results and well-founded practical experience gained during the introduction and implementation of digitalisation in various customer projects.















We offer the following service modules

Analysis of business processes		Vendor & technology selection	
Development of digitalisation scenarios		Introduction & implementation of digitalisation solutions	
Assessment & selection of digitalisation scenarios			

Our service packages

You want to digitize your business and create a paperless, more efficient office? You are wondering what scope of services should be covered by the system? You want

to know which system can meet your needs? You lack the time for a systematic analysis of processes and requirements? We would be happy to support you with our services.

Digitalisation specifications	    
Digitalisation study	    
Development and implementation of digitalisation solutions	    

"Together with IPH, we have developed a prototype for an innovative optical Auto-ID system in a research project. It's worth it when science and industry work so closely together."

Dr. Frank Mänken, Head of Technology Development,
Jungheinrich AG

JUNGHEINRICH



ERP / MES







Enterprise Resource Planning (ERP) and Manufacturing Execution Systems (MES) form the central backbone of your business, thus ensuring sustainable success.

With our team of experts in business organization, production technology, production planning and control and informa-

tion technology, and combined with our years of experience in the piece goods industry (for example, in machine and plant construction), we can support you in the selection of a new MES or ERP system.

As independent experts, we place value on a requirement-, time- and cost-oriented system selection tailored to your needs.

We offer the following service modules

Analysis & optimization of business processes		Synchronization of system functionalities & detailed selection	
Specification of requirements, including prioritization		Vendor presentation & final selection	
Market analysis & supplier pre-selection		Support in contract negotiations & system implementation	

Our service packages

You want to implement a new MES or ERP system, but do not know which of the numerous software solutions on the market fit your company? Or your

company already has an MES or ERP system, but you are convinced that there are better solutions? We can assist you with the selection.

MES / ERP review



MES / ERP system selection



MES / ERP system introduction



"With the help of IPH, we had professional project support at our side, which was instrumental in helping us formulate our requirements and select the providers and thus also prepared a comprehensive and viable decision-making aid. It was a great advantage for us to have a pre-selected and suitable group of vendors named from which we could ultimately select the 'perfect' software partner for us."

Michael Winterboer, Authorized Signatory,
JOWO – System Technology AG











Factory planning

Since our founding in 1988, we have been successfully planning factories. In addition to the many years of experience and expertise of our former and current shareholders, Professor Hans-Peter Wiendahl and Professor Peter Nyhuis, the latest research findings and newest technology, such as 3D visualisation and Virtual

Reality, have a great influence on our work. We offer interdisciplinary planning services in cooperation with architectural firms.

The use of the proven synergistic factory planning process ensures fast and high-quality results because the disciplines of architecture, logistics, and building services work together efficiently.

We offer the following service modules

Specification of requirements & definition of goals		Structure design & rough layout planning	
Factory analysis & basic evaluation		Layout assessment & layout selection	
3D visualisation		Detailed layout planning	

Our service packages

Your factory capacity is threatening to burst at the seams, and established structures are limiting your options? You want to virtually visit your future factory as early as during

the planning phase? We are happy to help – Wir unterstützen Sie gern – whether in the mapping of the actual state, in the reorganization, or in new planning.

Threedimensional mapping of the current state



Reorganization planning



Greenfield planning



"As part of our production expansion, we have developed a two-stage expansion concept with the support of IPH. Above all, we enjoyed the open and constructive exchange of ideas with the IPH team. In the project we were able to enrich our ideas with IPH's expertise. With the implementation of the concepts, we expect a considerable increase in the efficiency of our logistics processes".

Berthold Berens, Head of Technology,
INNO TAPE GmbH

INNO TAPE
Der Konverter.









Forming technology

We specialize in resource-efficient processes in the field of forming technology. Our core area of expertise includes technologies such as flashless or flash-reduced forging, cross wedge rolling, hydro-forming and hybrid forging.

We consider different materials for these applications, such as steel, stainless steel,

aluminum, titanium and Inconel. We have more than 20 years of experience in the flashless forging sector. If you want to optimize your forming processes, save material in the forming process and reduce the defect rate or are interested in alternative forming methods such as cross wedge rolling, we will gladly advise you.

We offer the following service modules

Specification of requirements & definition of goals		Construction of forming tools	
Analysis of current state		Forming tests & evaluation	
Design of forming processes		Economic evaluation	

Our service packages

You want to optimize an existing forming process, but do not possess FEM programs for the design of forming processes? Or you want to test alternative methods, such

as cross wedge rolling or flashless forging? Then we would be happy to support you in the design and execution of forming processes.

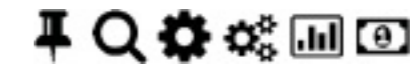
Design of forming processes



Implementation of forming tests



Design and testing of forming processes



"We've been working closely with IPH for more than ten years implementing the newest research results in our forging production. Due to this cooperation, our forging processes have become both more material- and energy-efficient."

Gürbüz Güzey, Production Director ,
OMTAŞ A.Ş. (Turkey)





Lean production






Today, companies are confronted with the challenges of having to serve an increasing variety of products as well as to realize ever shorter delivery times for their customers. In addition, they want to increase their efficiency and increase the added value share.

With the help of the targeted application of lean methods (cycle time compensation,

Heijunka principle, Just-In-Time, Kanban, 5S) in the production, you can counteract the increasing diversity of production variants, reduce throughput times and reduce your share of non-value added activities, making your company profitable.

Our experts will be happy to help you analyze and optimize your current situation according to Lean standards.

We offer the following service modules

Recording of the production processes		Optimization of production processes according to lean standards	
Analysis of production processes		Introduction of lean methods in production	
Selection of suitable lean methods			

Our service packages

You want the share of value adding activities in your company increase business? You want to reduce your lead time of orders and increase the output? You want to achieve a high product and

process quality with low costs?

Then we would be happy to support your company in the analysis and implementation of suitable lean methods in production.

Process analysis



Development of a target concept based on lean methods



Introduction of suitable lean methods in production



"The close cooperation with IPH enabled us to optimize our production processes and also identify innovation potential."

Dr. Thorsten Volgmann, Production Manager,
NSTOB Springe





Manufacturing processes







We have extensive knowledge of well-known and innovative manufacturing processes. Our core areas of expertise include the evaluation and selection of alternative production options for your components.

We examine manufacturing processes such as casting, machining or forming and

their technical feasibility and economic viability for you.

If you are wondering whether other manufacturing processes are cheaper than the technology you currently have in use, we can support you in researching, evaluating and selecting alternative manufacturing processes and vendors.

We offer the following service modules

Specification of requirements & definition of goals		Assessment of manufacturing processes	
Analysis of existing manufacturing processes		Vendor selection	
Research of alternative manufacturing processes		Economic evaluation	

Our service packages

Are you looking for alternative ways to customize your components? Are you interested in the potential of other manufacturing processes and are wondering if they

are cheaper than the technology currently in use? Then we would be happy to support you in researching, evaluating and selecting manufacturing processes.

Research of potential manufacturing processes



Evaluation and selection of alternative manufacturing processes



Research of manufacturing processes and supplier selection



"We are a tool designer and manufacturer originally delivering mouldings for the iron and aluminium casting industry. Our public awareness has grown a lot since we are able to offer the manufacturing of forging and cross wedge rolling tools. IPH helped us accomplish that."



Borja Lizari, Managing Director,
Aurrenak S. Coop. (Spain)



Material flow simulation







With the help of material flow simulation, we enable companies to quantitatively check the effects of adjustments in their production process before they are realized, without influencing ongoing production.

Areas of application for material flow simulation are offered during the planning,

realization and operation phases of production systems.

Our experts will be pleased to assist you in conducting a comprehensive simulation study - from sizing equipment to determining emergency response strategies in case of incidents, to reviewing scheduling control procedures.

We offer the following service modules

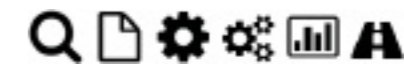
Requirements analysis & goal definition		Simulation of variants with quantity scenarios	
Object & process analysis		Analysis of the simulation results	
Development of model variants		Derivation of recommended actions	

Our service packages

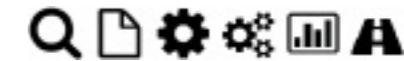
You would like to set up a new production system and check in advance the dimensioning of the systems or determine the necessary personnel requirements? You are wondering which performance reserves your existing production offers or where temporary

bottlenecks occur? You want to test a new control method or an innovative organizational form without intervening in the current production? Then we will gladly assist you with the implementation of a comprehensive simulation study.

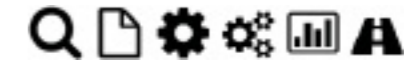
Bottleneck analysis in variable load situations



Capacity dimensioning of plants



Selection of alternative transport and production techniques



"The IPH experts helped to make a sound investment decision with a material flow simulation. On the basis of the knowledge gained from the simulation, we were able to evaluate the performance of various material flow concepts and determine a preferred variant."

Dr. Anis Selaouti, Head of Strategic Footprint Planning,
LEONI Bordnetzsysteme GmbH

LEONI



Potential analysis

With the help of a targeted potential analysis, we examine the strengths and weaknesses of your internal processes. This enables us to work out your strategic success factors.

During this potential analysis, for

example, we will exploit the potential of your manufacturing processes with you.

Our experts in the areas of logistics, production automation and process technology will gladly help you to analyze your current situation and to optimize it if necessary.

We offer the following service modules

Analysis of business processes		Evaluation & selection of recommendations for action for potential development	
Presentation of the strengths and weaknesses of your company		Strategy development	
Phrasing the potentials of your company		Support in the implementation of suitable measures for potential development	

Our service packages

You would like to optimize and expand existing processes? You want to recognize your own strengths and weaknesses and use your full economic potential? You want to improve the future

success of your company to withstand the increasing competitive pressure?

Then we will be happy to assist you in developing your maximum potential.

Creation of a SWOT profile



Potential analysis



Potential exploitation



"In the cooperation with IPH, the requirements of us as customers always had priority. At the same time, the discussions revealed a highly structured approach. In this way, we were able to work together in a goal-oriented manner to achieve a project result that also provided new impulses through IPH's external perspective."

Anita Teske, Project Manager Mechanical Manufacturing,
Lenze Operations GmbH

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