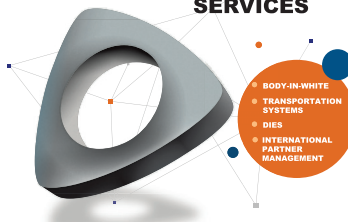




WEST-RU is an independent privately held Group of Engineering Companies. We provide our Customers with high-quality Engineering and IT services and manufacture Turnkey Solutions. WEST-RU Group operation is based on the long-term and multi-project practical experience of cooperation with international Customers and Partners in automotive and other industries.

Main activities

ENGINEERING SERVICES

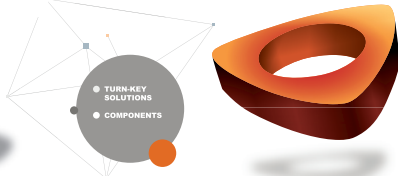


- BODY-IN-WHITE
- TRANSPORTATION SYSTEMS
- DIES
- INTERNATIONAL PARTNER MANAGEMENT

- WEST-RU Group is the largest in Eastern Europe provider of body-in-white engineering services, covering planning, design and simulation of automatic welding and assembly lines

- WEST-RU Group also provides similar engineering services to customers in automotive and other industries for die design, transportation systems and steel structures

MANUFACTURING SYSTEMS



- TURNKEY SOLUTIONS
- COMPONENTS

- WEST-RU Group is provider services by planning, design, manufacturing, installation, commissioning and postsale services of production systems (Turnkey solutions) for automotive and other industries

- Manufacturing equipment components distribution, installation and maintenance of European production systems manufacturers: Tünkers, Doceram, Bräuer, Applied Robotics, Lang Tube Tec, GROB and others

IT-SERVICES



- SOFTWARE SOLUTIONS
- SERVICES
- CONSULTING
- TRAININGS

- Adaptation of CAD/CAE/PLM software products under customer requirements by writing applications, interfaces and macros

- Development of specialized interfaces: Robcad/Process Simulate/Process Designer - AutomationML/COLLADA

- Optimization of methods and processes. Support throughout the process chain from planning to implementation

SMOOTHING OF PEAK LOAD



Providers of bulk material conveyors are facing shorter and shorter delivery times. Short delivery times result in temporary increase in capacity - not every company can execute this challenge with its own resources. Experienced external service providers with special know-how can compensate these demands.

Smoothing of peak load

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Hans-Jürgen Bittermann

Planners and operators of bulk material systems not only have to define the characteristics of each ingredient. High priority is given to labor and environmental safety, fire and explosion issues, as well as pollution control. In addition, the automation technology plays a vital role: recipe management, batch control, data

Author - a freelance journalist from Lambsheim

acquisition of all material flows and traceability are nowadays standard requirements. Midsized manufactures of conveyor systems quickly reach their capacity limits. One solution: You can reach out to external companies such as WEST-RU who have qualified engineering and planning specialists.

WEST-RU Managing Director Georg

Kremer sees a clear separation of responsibilities between conveyors manufactures and external planning and engineering services providers: In 90% of cases the handling technology provider has the know-how of how to optimally transfer a certain bulk material – it means to know the correlation between moisture content, particle sizes etc. With this knowledge, they define the technical equipment needed to transfer bulk material from A to B. After this initial definition phase, WEST-RU engineers execute and design the layout, 3D models and 2D drawing as well as static calculation, simulation and documentation. Kremer: "Conveyor providers know physical and hydrodynamic characteristics of bulk material, and we take the constructive side, and compute the appropriate solution as a digital model.

Oil seeds: A different kind of conveyed material

Company Ilchmann Fördertechnik focusing on oil seed processing industry is a good example how such collaboration works in practice. Various vegetable oils and fats determine texture, look, smell and taste of many products. In addition to local oilseeds, such as rapeseeds, a large proportion of oilseeds, which is processed in German oil mills, are imported from North and South America, Southeast Asia, Western and Eastern Europe. The variety of seeds and supplying countries ensures uniform supply independent from the season of harvest. And it allows to meet the different and diverse quality requirements.



Pic. 1: OVID - Association of oilseed processing industry in Germany: Oil press

Bulk materials

Simulation is gaining importance

In addition to design activities, WEST-RU specialists also execute static calculations. More and more often clients ask after simulations, for example, to analyze and identify production capacities and in order to then eliminate bottlenecks. Their portfolio includes multi-resource simulations including cycle time and device layout optimization, ergonomic studies and last but not least complete manufacturing systems simulation based on

software tools like Tecnomatix Plant Simulation from Siemens. Computer based simulation of complete conveyor systems or components are an integral part of work today's designers. This includes FEM calculation, Multibody simulation, Computational Fluid Dynamics (CFD) and Discrete Element Methods (DEM) and in combination is able to simulate complex interactions between bulk material, components and environment quite realistically.

Between the separate processing phases in oil mills many conveyors are used. The company Ilchmann Fördertechnik, founded in 1992 belongs to rather small circle of suppliers offering a complete program of conveyors of bulk material. Tim Ilchmann, owner and managing director, "We focus on special tasks in transporting, mainly for the oilseed processing industry". Factories process rapeseed or sunflower seed around the clock and in large quantities to get edible oil, Ilchmann says: "It's not unusual that our conveyor systems transport up to 5000 tons per day."

Relief in parallel projects

Among the market leaders of this industry, Tim Ilchmann sees himself well positioned: "We are a preferred supplier, our conveyors are used worldwide in oil mills." This is particularly true when discussing about complex solutions or when a conveyor must be adapted to difficult local conditions. "This is our core competence combined with in-depth conveyor technology knowledge and years of experience in very specific industries." This is the basis for a low maintenance and overall low total cost solution.



«Short delivery times always mean temporary increase in manpower.»

Tim Ilchmann, Ilchmann Fördertechnik



Rapeseed is one of the specialties of Ilchmann Fördertechnik.



Sunflower seeds are raw materials for the oilseed processing industry.

In order to relieve workload peaks Ilchmann collaborates with external design offices. "Our goal, of course, is to utilize our own resources. Only if this fails, external service providers are invited to participate. They design according to predefined parameters technical components" The external services provider has to consider our narrow specification create manufacturing drawings according to the size of the conveyors; the drawings are checked by Ilchmann's experts and then handed over to the production. A precondition of such suppliers, is to use compatible software, employ well-trained engineers and deliver on schedule. Ilchmann often chooses WEST-RU as a partner: "Their references show activities in similar industries, so we expect can good basic understanding of our domain."

International cooperation shortens delivery times

For example, in this project: In two ongoing parallel large projects with a total of 150 conveyors two WEST-RU engineers took over various design tasks. How did this cooperation work? Ilchmann: "WEST-RU chose two English speaking engineers from Nizhny Novgorod in Russia. These two

engineers visited our office to Bickenbach and within two weeks familiarized themselves with the technology. They brought all necessary hard- and software, which could be easily integrated into our system and network with them. After successful familiarization, they traveled back to Russia and continued from there for next four months to complete all the design tasks for us. After completion of individual designs, the drawings were transferred via FTP to our server. Occasional brief conversations via telephone or Skype in Russian or English were necessary. This concept ensured high quality solutions and punctual delivery.. Tim Ilchmann concludes: "The cooperation executed on schedule, with high quality and in the end was very satisfying for us!" He continued: "We tend to face increasingly shorter delivery times. Short delivery times always mean temporary increase in manpower, so external service providers certainly will always come into play."