

Join Us in Shaping the Future of Thuringia!

An overview of the current forums



Forums are...

- › Topical discussion labs with special events and an online discussion platform
- › Incubators for networking, cooperating, and taking action
- › Open to all stakeholders
- › Cross-sectoral
- › Cross-technological
- › In tune with the latest developments

You, too, can get involved to help shape Thuringia's future. Visit our forum events or join the discussion in the ongoing forums via our online platform.

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Overview of the forums



- Efficient, Flexible Processes, Technologies and Systems
- Economy 4.0
- Production Monitoring & Control
- Production/ Industry-Related Predevelopments



- Automotive
- Automotive Communication
- Mobility Concepts
- Logistics



- Healthy Living & Aging
- Medical Technology, Analytics & IVD
- Nutrition & Pharmaceuticals



- Energy
- Resource Efficiency



- Smart Services
- Industrial Media Applications

Description of the forum topics

Efficient, Flexible Processes, Technologies and Systems

Remaining competitive in the production environment of tomorrow will require efficient, flexible technologies and the correspondingly configured processes that can be integrated into systems. Thus, the main focus of this forum is on production technologies (e.g. master-forming, separating and/or additive production processes; assembly, joining and coating technologies; (partial) automation, robotics, and special machines).

Economy 4.0

The advancing digitalization of both the economic and social spheres is the point of departure for the “Economy 4.0” strategy, which calls for intensive cross-networking between production on the one hand and information & communication technology (ICT) on the other. Thus, the end-to-end digitalization brought about by cyber-physical systems and the Internet of Things is to serve as a basis for the cross-networking of people, machines and things, both within a given company and extending outside of it. This new level of industrial value creation will optimize existing value-added processes while giving rise to new business models and organizational practices. The forum’s key subject of discussion is the cross-linkage of various spheres of activity, e.g. production, production design, ICT technology, sensor-actuator technology, data processing/editing as well as “legal matters.”

Production Monitoring & Control

One of the key focal points of the Industry 4.0 strategy is on production, along with its steering and monitoring. This is because production monitoring & steering safeguards the competitiveness of companies while allowing efficient and nearly error-free production. Thus, the main subjects of discussion in this forum include: sensors for production monitoring and their integration; technical interfaces for sensor data; safety in the production process; algorithms for steering; actuating elements.

Production/Industry-Related Pre-Developments

Changes to production workflows and to the way production is organized – e.g. in the context of the Industry 4.0 strategy – will pose new challenges when it comes to the development of materials. Conversely, novel materials and the production processes that they entail will create the need for flexible and efficient production. The discussions held in this forum center on the materials of the future, including the associated modelling techniques, analytic technologies, and production processes. Kern des Forums ist die Verzahnung der unterschiedlichen Bereiche, z.B. Produktion, Produktionsgestaltung, Informations- und Kommunikationstechnik, Sensor-Aktor-Technik, Datenver- und -bearbeitung, sowie „Recht“.

Automotive

The subjects discussed in this forum include: optimized combustion engines and power-train components; downsizing; high-performance sensors; energy efficiency of auxiliary drives; (ongoing) development of fuels that are as CO₂-neutral as possible; electric mobility and hybridization; lightweight-construction solutions using plastics-based structures; hybrid and composite materials; the use of carbon in chasses; aluminum-foam supports for engines and gearboxes as well as in new material structures; functional integration, e.g. of energy-storage and energy-transformation systems into composite materials. The topics addressed are continually adapted and refined in the forum sessions.

Automotive Communication

The subjects discussed in this forum include: driving-assistance systems; (partially) self-driven vehicles; connected cars; vehicle telematics; Car-2-X (including vehicle-to-vehicle and vehicle-to-infrastructure communication). The topics addressed are continually adapted and refined in the forum sessions.

Mobility Concepts

The subjects discussed in this forum include: mobility in urban areas; mobility flat rates; commuter traffic; the integration of residential living and mobility; mobility concepts for the disabled. All of these topics also include the corresponding innovations made in the area of traffic systems, such as traffic-flow optimization, integrated traffic models, and intermodal mobility. The topics addressed are continually adapted and refined in the forum session.

Logistics

The subjects discussed in this forum include: efficient logistics through improved cost-effectiveness, handling capacities and failsafe backup capacities in intermodal transport; logistics-management concepts for customized production; ICT solutions for efficient steering of the logistics chain; logistical concepts for eCommerce; logistics in the nutrition/food industry. The topics addressed are continually adapted and refined in the forum sessions.

Healthy Living & Aging

One of the focus topics discussed in this forum is the development of innovative products and services that can help prevent disease, maintain health and quality of life, and/or improve the ability of senior citizens to participate in society. Other subjects include the development of innovative and market-ready medical aids; the elaboration of solutions and products & services that help people interact with technical equipment and technology; products & services offered as part of company health-care management; innovations for better geriatric / gerontological care. As part of their joint discussions of these subjects, the forum members are expected to derive concrete measures and recommendations to help improve their reciprocal networking.

Medical Technology, Analytics & IVD

The subjects discussed in this forum cover a wide range of technologies, product developments, and services, the main focal points being medical technology, analytics, and in-vitro diagnostics. In the process, a number of ongoing trends are examined as possible sources of innovation, e.g. miniaturization, computerization, molecularization, personalization, methodological hybridization, and progressive system complexity. The forum is expected to enable the identification of recommended measures and topics so as to tap into any unused potential in the region, while also fostering industry-driven R&D against a backdrop of close cooperation between business and science.

Nutrition & Pharmaceuticals

The focus of this forum is on manufacturing processes and quality controls in the nutrition and pharmaceuticals sector. Key issues in this regard are how to make processes and production workflows more stable, efficient, reproducible, and rapid, while also reducing the related costs. When it comes to the food industry, the discussions center on how food-stuffs can be improved through technological means and novel recipes or by developing new products. The forum is also expected to cover the issue of quality control in pharmaceuticals & nutrition in compliance with the respective regulatory environment, given that this is an area with a high demand for innovation.

Energy

Transitioning towards increased reliance on renewable energies is premised on a structural shift in the way energy is supplied. Ensuring the supply with energy is reliable, economically viable, and environmentally friendly will require the development, setup, and operation of resource-efficient energy-supply systems and components as well as new smart grid concepts. It will also mean that the potential for energy efficiency will need to be tapped that is given in industry, households, and transport, while promoting the evolution of energy-storage technologies. Against this backdrop, the forum participants are expected to derive joint recommendations from their discussions.

Resource Efficiency

The recovery of valuable secondary raw materials requires the entire process chain to be optimized, beginning with the stage where the resource is re-introduced into the cycle, through to its treatment, and ending with its exploitation. A key factor in this context is the ability to implement concepts, treatment technologies, and exploitation processes that interface smoothly with one another and that enable sustainable and cost-efficient processing. Thus, the forum's discussions center on formulating corresponding measures that will serve to boost resource efficiency and create closed materials cycles.

Smart Services

The key subject discussed in this forum is "IT-supported service orientation." This includes specific activities such as "service innovation," "service design," "service development", and "service operation," all of which are to become more visible, and above all easier to implement, at Thuringian companies. In order to create the proper preconditions for implementing these activities, the forum is encouraged to discuss and elaborate any methodology, processes or standards that may still be lacking, whereby the results derived may also be used as a basis for future projects.

Industrial Media Applications

By now, audiovisual media have become indispensable to the modern economy, e.g. in terms of networked communication, production monitoring or the secure exchange of data. Particularly when it comes to sensors, the ability to bundle various technologies for the collection, analysis, and evaluation of digital data opens up vast new horizons for novel applications, e.g. to monitor production processes and product quality in the context of the Industry 4.0 strategy.

Discussion Platform and Forum Calendars



www.cluster-thueringen.de/mitmachen

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