## ACHEMA2022

## Program

World Forum and Leading Show for the Process Industries

22 – 26 August 2022 Frankfurt am Main, Germany

www.achema.de



#### #back2live

## **ACHEMA 2022**

World Forum and 33<sup>rd</sup> Leading Show for the Process Industries Frankfurt am Main, Germany

#### 22 – 26 August 2022

Live again at last – that's the motto of ACHEMA 2022! After so many months of digital meetings, the entire industry is longing for an in-person trade show. With real exhibits and face-to-face encounters: Be there, too, when in August 2022 Frankfurt am Main is once again the world capital of chemistry for a week!

As the innovation driver of the global economy, the process industry has impressively demonstrated its strength, innovation power and resilience during the pandemic. From the unprecedented successes in vaccine development to pioneering climate neutrality approaches without the wealth of ideas in our industry, none of this would be possible. Now let's take the next steps together with ACHEMA 2022 in tackling upcoming challenges – there are certainly enough of them.

One challenge we have already mastered is the shift to the "new normal" in the trade show world. Yes, trade fairs are not only hygienic and safe even under Corona conditions but can also be implemented successfully!

So let's take the opportunity and look forward to what ACHEMA will offer in abundance once again: Inspiration, interaction, innovation. And last but not least, a community of industry professionals driving cooperation – across all disciplines and along the entire value chain.

As the world's only comprehensive showcase of the latest technology trends in our industry, ACHEMA is both a must-attend event and a source of inspiration for everyone who makes a difference in the world of the process industry.

With this in mind, we cordially invite you to participate in the 33<sup>rd</sup> ACHEMA and look forward to welcoming you to Frankfurt am Main in August 2022.



**Dr. Klaus Schäfer** Chairman of DECHEMA e.V.



VL

**Jürgen Nowicki** Chairman of the ACHEMA Committee



Fonte

**Dr. Andreas Förster** Executive Director of DECHEMA e.V.



Rel.

**Dr. Thomas Scheuring** CEO of DECHEMA Ausstellungs-GmbH

#### **Digital Hub**

Welcome to our newest exhibition group!

The Digital Hub is the central meeting point for digital experts and all participants interested in or actively involved in the digital transformation of the process industry. The exhibition area with a central stage offers the latest insights from experts and solution providers and facilitates future-oriented discussions with executives and experts alike.

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#### **Green Innovation Zone**

Challenges and solutions for a more sustainable future!

The "green" transformation is by far the most challenging project in the history of the process industry. The Green Innovation Zone brings together pioneers, experts and solution providers from industry, politics and science with decisionmakers and users. Forge new partnerships here for the decade of delivery!

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### Action Area Digital Lab

Experience, handle and try out the smart lab of tomorrow!

Immerse yourself in the world of the connected and digitalized laboratory with six use cases. Here, equipment and software manufacturers show you vendor-independent digitalization solutions based on relevant practical scenarios. Experience Cobot assistance, laboratory execution systems, horizontally and vertically connected yet modularly adaptable device solutions, and learn more about the new Laboratory & Analytical Device Standard.



» Page 13

#### **Congress and PRAXISforums**

This year's presentations will showcase the latest developments and research results in engineering, biotechnology, chemical and pharmaceutical science and technology. In addition, the Congress will be fully integrated into the trade show for the first time: All lectures will take place either on stages directly in the exhibition halls or close to the exhibition groups – forget long walks! There will be a special focus on hydrogen economy, fossil-free production, digitalization in the process industry, perspectives in laboratory and analytics, and novel bioproduction processes and technologies.



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#### **Start-up Area**

ACHEMA is the meeting place for all players in the process industry, including young companies and new business founders. In addition to the already established start-ups that can be found in all the ACHEMA exhibition groups, we will also be presenting early entrepreneurs in the Start-up Area, along with the ten finalists of the ACHEMA Start-up Award.

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#### Career

Get your career off to a flying start!

On the lookout for a new challenge? At ACHEMA, you will gain access to more potential employers than at any other platform: The majority of our exhibitors bring their HR managers with them to the show. With the Career Forum, we also offer a networking event all about successful applications, career paths and job prospects. We support students in the framework of the ACHEMA study courses.







## Health and Safety

Your safety is our top priority. Our health and safety measures – tried and tested at many trade shows – ensure smooth trade show operations and a relaxed atmosphere.

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#### The new ACHEMA app – your mobile companion

A must-have for your visit to ACHEMA: The complete directory of exhibitors with extensive search and filter options, interactive hall plan and many practical functions makes it easy for you to locate and contact suitable suppliers. Get in touch with experts from the global ACHEMA community via the integrated matchmaking function, expand your business network in a targeted manner and exchange information on innovative solutions. The app also contains the current congress program, which allows you to transfer your favorites directly to your calendar. Daily updates ensure you are always informed about the latest developments.

The **ACHEMA app** will be available free of charge for Apple iPhone (iOS 9.0 or higher) and Android Phones (version 4.1 or higher) from the official app stores from mid-July 2022. We recommend bookmarking www.achema.de/mobile-app.





#### **Exhibition Groups**

A key concern of ACHEMA is the interdisciplinary sharing of experience between manufacturers, users, developers and scientists. Over 2,000 exhibitors spread across 13 hall levels and two outdoor areas will be presenting a wide range of new developments, innovative products and system solutions. This provides ACHEMA visitors with access to the entire spectrum of process technology in a depth, transparency and current relevance that is unparalleled anywhere else in the world. The scope of information on offer is combined in the form of exhibition groups in such a way that these sub-areas are assigned to individual hall levels.



#### Engineering

#### Hall 9.1

Development, planning and construction of production facilities for all areas of chemical and pharmaceutical engineering and biotechnology, flow chemistry, CAE – Computer-Aided Engineering, facilities for water and wastewater treatment, exhaust gas cleaning, waste disposal and recycling, chemical parks.



#### **Digital Hub**

#### Hall 11.0

Digital solutions for production, maintenance and plant design/construction, research and innovation, logistics and supply chain management, cyber security, augmented reality (AR), virtual reality (VR), artificial intelligence (AI), blockchain, data virtualization platforms, edge computing, big data, machine learning, smart analytics, 5G.



## Research and Innovation

Areas of activity and latest research results from university institutes and research facilities, Startup Area and Green Innovation Zone.





## Laboratory and Analytical Techniques

#### Hall 4.1

Equipment, facilities, chemicals and services for research and industrial laboratories, laboratory planning and set-up as well as equipment for physical and chemical analysis, including sample preparation.



#### Literature, Information, Learning and Teaching Aids

#### Foyer 4.1, Hall 6.1

International media from all areas of the technology and service spectrum for ACHEMA, manufacturers of learning and teaching aids for higher education, vocational training and continuing education.



#### **Mechanical Processes**

#### Hall 12.0

Plant, apparatus and equipment for mixing, kneading, stirring, sieving, filtering including filter media, centrifuging, comminuting, grinding, agglomerating, homogenizing, conveying, weighing, drive technology and cleaning technology.



#### Instrumentation, Control and Automation Techniques

#### Hall 11.0, 11.1

System solutions and components such as sensors or processors for the automation, control and monitoring of procedures, processes and plants.

#### Pharmaceutical, Packaging and Storage Techniques

#### Hall 3.0, 3.1

Apparatus, machinery and materials for dosing, filling, capping, packaging and labeling, machinery for manufacturing and packaging pharmaceuticals and foodstuffs, transport and storage technology, logistics and supply chain management.



## Pumps, Compressors, Valves and Fittings

#### Hall 8.0, 9.0

Pumps and compressors for all media and a wide range of operating conditions, valves, piping, seals and packings, high-pressure applications.



#### Industrial and Labour Safety

#### Hall 9.1

Safety concepts for chemical plants, equipment, aids and measures for protecting people and the environment.



#### **Thermal Processes**

#### Hall 4.0, 6.1

Plants, apparatus and equipment for distilling, rectifying, extracting, absorbing, crystallizing, drying, heating and cooling, electrochemical processes, membrane processes, bioreactors, energy generation and conservation processes.



#### Materials Technology and Testing

#### Hall 11.0

Metallic, non-metallic and composite materials for chemical engineering, surface protection such as enameling, plating, plasma spraying, coating, bonding technology, testing materials and components, materials for energy generation, conversion and storage.

#### **Group Stands**

- » 5G Alliance for Connected Industries and Automation (5G-ACIA) – Hall 11.0
- » ACHEMA Start-up Award Hall 6.0 (Start-up Area)
- » Austrian Chamber of Commerce, Austria Halls 9.1 and 11.1
- » Baden-Württemberg International Hall 8.0
- » Digital Innovation Zone Hall 11.0
- » Excellence United Hall 3.0
- » FLUIDEX Spanish Association for Fluid Handling Solutions & Process Technologies, Spain – Halls 8.0, 9.0 and 9.1
- » GAMBICA Association, Great Britain Hall 4.1
- » Green Innovation Zone Hall 6.0
- » InnoSÜD Hall 6.0
- » Innovation Centre Denmark, Denmark Hall 11.0
- » Innovation made in Hessen powered by Technologieland Hessen – Hall 6.0
- » International Trade Press Stand Hall 6.1
- » LABMAS Laboratory Manufacturers Association of Spain – Hall 4.1
- » Research and Innovation Rheinland-Pfalz Hall 6.0
- » saar.is saarland.innovation&standort e.V. Hall 6.1

#### **Theme Stands**

#### Flow Chemistry Pavilion – Hall 9.1

Here, everything revolves around continuous process engineering and its industrial applications. Market leaders from the flow chemistry sector will present their latest solutions for continuous production, covering all aspects of process technology from upstream and downstream applications to fluid handling. In addition to the exhibition, the show will also feature a two-day symposium with top speakers from the flow chemistry community.

#### Modular Production and NOA – Hall 11.0

The special show "Modular Production and NOA" is a joint project of manufacturers, module builders and users from the process industry. Under the umbrella of the associations NAMUR, VDMA, ZVEI, as well as DECHEMA and VDI-GVC, the participating companies are driving current topics in process automation. The focus is on the Module Type Package (MTP) as the core technology of modular automation and the NAMUR Open Architecture (NOA), which, among other things, opens up a secure second channel for monitoring and optimizing process plants.

Attendance at the opening is open to all ACHEMA attendees on a space-available basis.

Further information and pre-registration at www.achema.de/ side-events

### **OPENING**

## **Climate-Neutral Chemical Industry 2050**

#### Monday, 22 August 2022, 17:00 – 18:30 h

#### Forum, Level 1

Europe aims to become climate-neutral by 2050. The chemical industry is also working on technologies to achieve this goal. What are the opportunities, challenges and obstacles for a climate-neutral chemical industry and society? How do we shape the necessary political framework conditions and incentives, which financial instruments are required? After the welcome address and opening of ACHEMA by Klaus Schäfer, Chief Technology Officer of Covestro AG and Chairman of DECHEMA e.V., Martin Brudermüller, President of CEFIC – The European Chemical Industry Council, will present the perspective of the European chemical industry in his keynote speech at the end of the first day of the exhibition. Afterward, open questions will be discussed with Martijn Smit, Business Development Director of Northern Lights, and Ernst Rauch, Chief Climate and Geo-Scientist of Munich RE.



**Dr. Klaus Schäfer** CTO, Covestro AG, Leverkusen, Germany



**Dr. Martin Brudermüller** President of CEFIC – The European Chemical Industry Council, AISBL, Brussels, Belgium

CEO, BASF SE, Ludwigshafen, Germany



Ernst Rauch Chief Climate and Geo-Scientist Munich Re Group, Munich, Germany



Martijn Smit Business Development Director, Northern Lights, Stavanger, Norway

### **Focal Topics**

What topics are driving the process industry today and in the coming years? ACHEMA's focal topics provide the impetus for future developments.



#### The Digital Lab

Data from all areas of research and production come together in the lab. Modular, automated and fully connected: The Digital Lab is the data mine for process development and quality assurance.





#### Product and Process Security

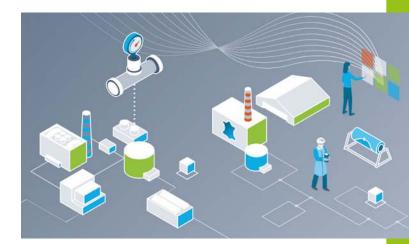
The interfaces between the real and virtual worlds require special attention in the age of Industry 4.0. Digital security is increasingly becoming a challenge for connected production.





#### Modular and Connected Production

Smaller batches, faster cycles, connected and modular hardware – digitalization is driving industrial production.



#### **Digital Hub**

Hall 11.0

#### Meeting Place for Digitalization Players



The topic of digitalization has finally claimed a top spot on the agenda of the process industry. It is also becoming increasingly significant in the ACHEMA community. Our new exhibition group "Digital Hub" builds the bridge to the digital economy.

Digitalization and the transformation it brings have long since outgrown IT departments' traditional areas of responsibility and arrived at the core of the ACHEMA community. Expectations of profitable synergies and new potential are evolving in breadth and speed in sync with the new technologies available to the industry.

As a central hotspot, the "Digital Hub" puts digital showcases of the process industry in the spotlight and offers space for exchanging ideas.

At the central Siemens Digital Innovation Stage and the exhibition, the latest findings will be presented to spark productive discussions.

#### **Green Innovation Zone**

Hall 6.0

## Challenges and Solutions for a More Sustainable Future



The process industry is fully committed to the United Nations Sustainable Development Goals. At the same time, it is often critical for the green transformation of adjacent industries. With the international, cross-industry opportunities that ACHEMA offers as the leading platform for the process industry, we are doing our part to solve the most ambitious challenge of our decade: #NetZero.

This special area highlights green innovations and the challenges facing the process industry on its way to climateneutral production. Five areas in particular will be in the spotlight at ACHEMA:

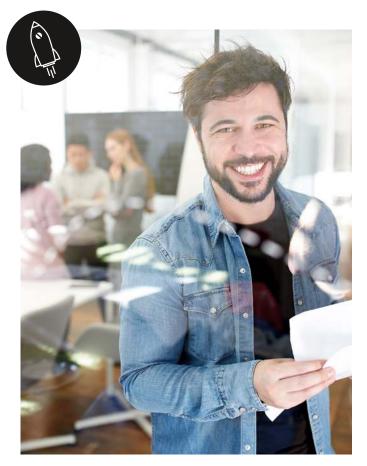
- » Climate-neutral production
- » Circular economy
- » Industrial water
- » Sustainable chemistry
- » Bio-based economy

The central point of contact for cross-sector dialog from industry, politics, science and finance is the EY Innovation Stage.

Main Partner Digital Innovation

## SIEMENS





#### **Start-up Area**

#### Hall 6.0

Young, innovative, different: The companies of tomorrow present their innovations in the Start-up Area and welcome the global process industry to their booths. As one of the central anchor points in the "Research and Innovation" exhibition group, the start-ups here show how science and technology, coupled with ambition and perseverance, can be turned into new services, profitable products and the latest processes. The Start-up Area is thus the central meeting point for young companies and innovation leaders in search of synergies and cooperation, as well as for all participants interested in new trends.

#### Partner of the Start-Up Area

#### Action Area Digital Lab

#### Hall 4.1

A total of six use cases for the connected and digitalized laboratory will be presented at the Digital Lab Action Area – the smart lab of tomorrow to experience, touch and try out. Equipment and software manufacturers will demonstrate cross-manufacturer digitalization solutions using relevant practical examples. The spectrum ranges from Cobot-assisted work processes for sample preparation and analysis, useroriented process control with Laboratory Execution Systems, to horizontally and vertically connected yet modularly adaptable equipment solutions with the perspective of shared laboratory infrastructure and seamless integration between sample input and quality-assured analysis results. Innovative software and device solutions are supported by the Laboratory & Analytical Device Standard (LADS) for OPC UA.



#### Pharma Innovation Stage

#### Hall 3.0

The Pharma Innovation Stage focuses on the specific challenges of the fastest-growing user community. The stage, which is centrally integrated into the trade fair activities in Hall 3.0, offers numerous impulses from experts, users and solution providers in the industry in various formats.

#### In addition to the



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growing significance of digitalization and sustainability, the increasingly agile interaction with suppliers and the global reconfiguration of global value networks are on the agenda. The technical disciplines will also be highlighted in their pharmaspecific manifestations: From development in the laboratory and plant engineering to production and manufacturing, quality assurance and packaging. All in all, a comprehensive pharma innovation update.

#### **Theme Days**

This year, for the first time, ACHEMA is fully integrating the Congress into the exhibition events: All lecture sessions will take place either on stages directly in the exhibition halls or close to the exhibition groups. This integration is underlined by the five theme days of the Congress. As a result, none of the topics driving the process industry will be omitted. Daily Highlight Sessions on the respective topics set additional accents.

#### Congress language: English

You can find the latest program and lecture details at www.achema.de/congress and in the app.



#### Monday

#### **HYDROGEN ECONOMY**

Hydrogen will play a central role in transforming the process industry, the transportation sector and the energy system toward future greenhouse gas neutrality. The gas can be produced by a variety of processes, each of which is assigned its own color. The process industry is already the main user of hydrogen, whose potential is far from exhausted. ACHEMA will address this topic during the Congress and in a Highlight Session.

» Highlight Session: Hydrogen: unlocking the future potential Monday, 22 August 2022, 13:30 h, Hall 4.0, Room Europa

#### Tuesday

#### **FOSSIL-FREE PRODUCTION**

Fossil-free production is an important and ambitious goal for reducing greenhouse gas emissions in the process industry and a promising way to become largely independent of fossil raw materials. Electrification, the use of alternative carbon sources such as CO2 or biogas, and the establishment of a circular economy remain major challenges on the process industries' climate agenda. The idea of fossil-free production, while simple, holds many unanswered questions. At ACHEMA 2022 you will learn which approaches to solutions are being discussed.

#### » Highlight Session: Fossil-free production Tuesday, 23 August 2022, 13:30 h, Hall 4.0, Room Europa





#### Wednesday

#### PERSPECTIVES IN LABORATORY AND ANALYTICS

It's a long way from the latest scientific advances in preparation and analysis technology to market implementation. Data from all areas of research and production converge in the laboratory. Modular, automated and fully connected, the digital laboratory is a central component for process development and quality assurance. The Highlight Session and the Congress will complement your visit to ACHEMA on this topic.

» Highlight Session: Laboratory and analytical techniques Wednesday, 24 August 2022, 13:30 h, Hall 4.0, Room Europa

#### **Highlight Sessions**

Hydrogen economy, fossil-free production, perspectives in laboratory and analytics, digitalization, novel bioprocesses and technologies – the challenges for the process industry are multi-layered when it comes to these core topics. That's why thought leaders, users and technology providers will discuss where we are today and what the process industry can expect in the future in five highlight sessions. Join us and be part of this exciting discussion!





Thursday

#### **DIGITALIZATION IN THE PROCESS INDUSTRY**

"Data is the new gold" is a much-used phrase. But how can this treasure be harnessed, and more importantly, how can data be used in business models? Artificial intelligence can make big data usable. Augmented reality brings data and the physical plant together. Blockchain can be used to organize supply chains efficiently. Data security must not be forgotten here. These topics are all covered in presentations, special sessions, and the Digital Hub.

» Highlight Session: Digitalization in process industries Thursday, 25 August 2022, 13:30 h, Hall 4.0, Room Europa



#### Friday

#### **NOVEL BIOPROCESSES AND TECHNOLOGIES**

New biopharmaceuticals, bio-based fine chemicals or biotechnological recycling all require new (production) processes. A thriving circular economy that realizes the Sustainable Development Goals is inconceivable without innovative technologies: More than anything else, synthetic biology, automated laboratory technologies, integrated bioprocesses, innovative bioreactor concepts, novel downstream technologies and advanced modeling are driving change. ACHEMA 2022 will be the global showcase for these exciting developments. Learn about new concepts, technologies as well as solutions and exchange ideas with your colleagues from around the world.

» Highlight Session: Novel bioprocesses and technologies Friday, 26 August 2022, 10:30 h, Hall 4.0, Room Europa

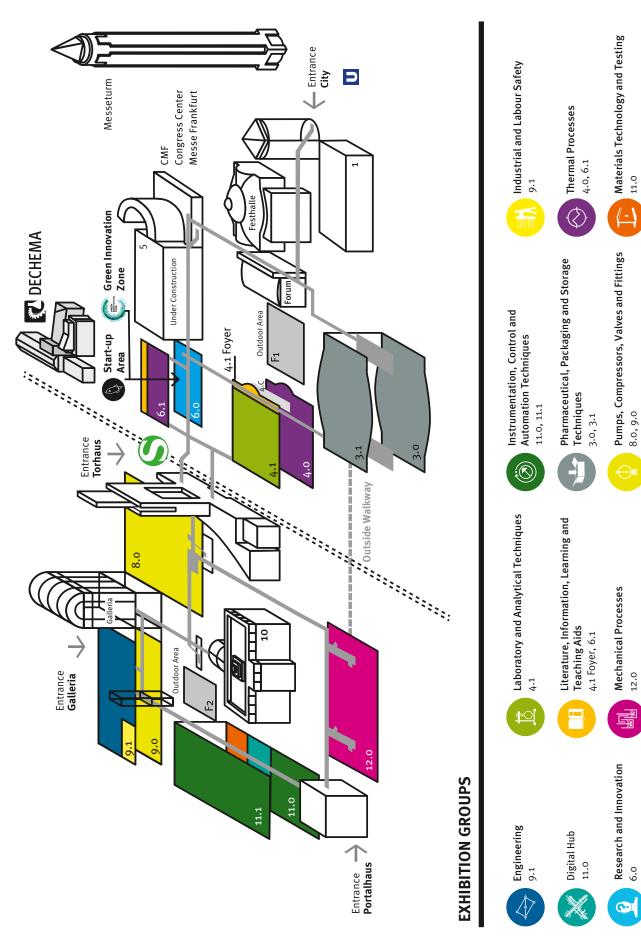


## **Congress Topics**

xhibition	Congress Topics	Date	es				Exhibition	Congress Topics		Dates					
Groups		Mo Tu We Th 22 23 24 25			Groups				We 24						
	Additive manufacturing							Innovative mixing and separation solutions							
	(Bio)Pharma meets production		_	-				Innovative product design in							
× ×	Carbon neutral production sites		_		_			mechanical process engineering							
	Chemical recycling					_	Inorganic raw materials in a circular economy								
	carbon							International Powder and					-		
	Energy flexible factories							Nanotechnology Forum							
	Engineering							Mechanical processes							
	Flow chemistry symposium							Inductrial intelligence and can			-	-	-		
	Fossil-free production							Industrial intelligence and sen- sor-based process control							
	Hydrogen: Unlocking the future potential							Instrumentation, control and					-		
	Industrialisation of water		_					automation techniques	-		-		_		
	electrolysis for green hydrogen							Modular production – a paradigm shift for the process industry							
	Industrial water management Novel bioprocesses and							Pharmaceutical, packaging and							
	technologies							storage techniques			-		_		
	Plant design and maintenance			_				(Bio)Pharma meets production Pharma innovation update			-	-	-		
	Polymers from renewable carbon sources							Pumps, compressors, valves	-		-	-	-		
	Power-to-X concepts and technologies						$( \mathbf{\Phi} )$	and fittings State of the art in fluid					_		
		_	_					handling							
Sill off	CDO talk	-	_		_					_	_		-		
	Data-driven innovation				_		Industrial and labour safety					_			
	Digital driving sustainability		_					Process safety	_		_	_	_		
	Data integration in process industry summit	ss industry		-		-		-							
	Digitalization in process industry							for safety							
	Industrial intelligence and sensor- based process control							Bioprocessing: bioreactors, process							
	Industrial water management							development and control					-		
	Modular and connected production							Biorefineries in the circular bioeconomy							
	Plant design and maintenance							Extraction					-		
	The digital plant							Hydrogen: Unlocking the future					-		
	Bio-based economy							potential			-		-		
	Circular economy							Innovative product design in process engineering							
	Hydrogen: Unlocking the future potential							Membranes and membrane					-		
	Industrialisation of water electrolysis for green hydrogen							processes Novel bioprocesses and							
	International Powder and Nanotechnology Forum							technologies Power-to-X concepts and							
	Research and innovation							technologies			_				
	Laboratory and analytical							Thermal processes			_		-		
廿	techniques							Additive manufacturing			-		_		
	Sustainable laboratory						0	Materials and material processing		_			_		
	The digital lab							Materials technology and testing							

# Hall Overview

# ACHEMN2022



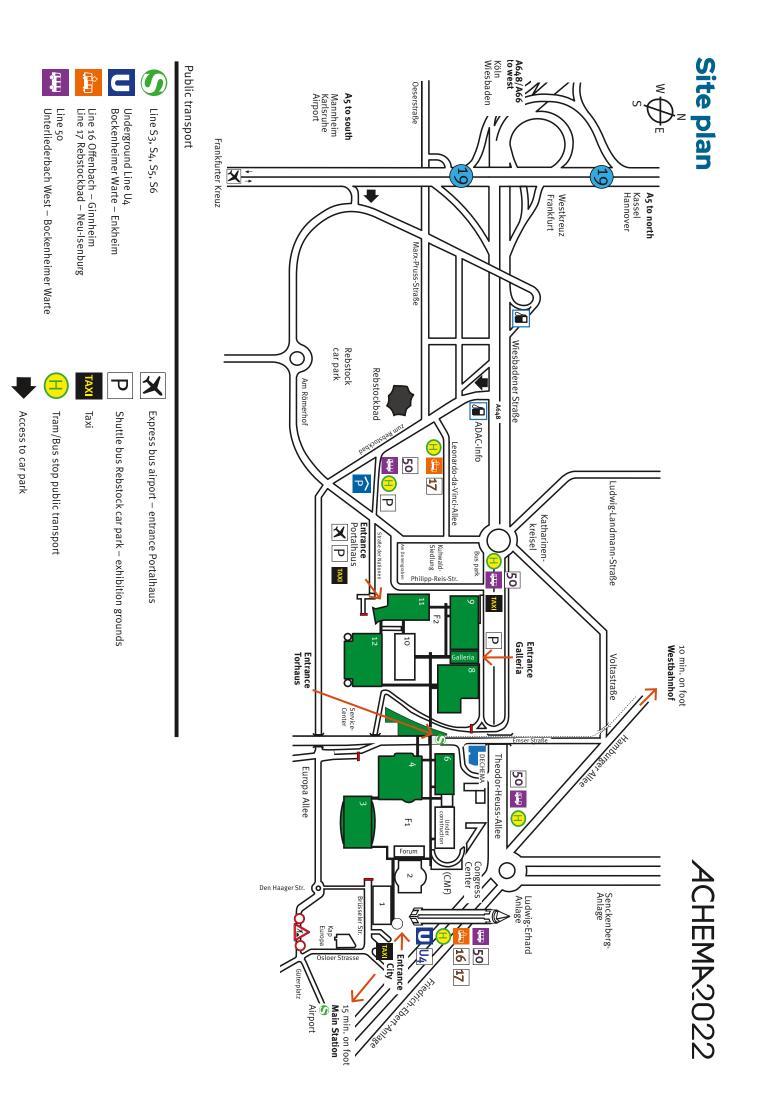
#### 18 | Overall Schedule

			Room/ Stage	Expert Forum	Siemens Digital Innovation Stage	Granat	Karmesin	Korall	Discussion Corner	Logos	Genios	Esprit	Motiv	Sj
			Hall	12.0	11.0	11.0	11.0	11.0	9.1	9.1	9.1	9.1	9.1	
			13:30 – 14:30 h						uropa: Highlight <b>cking the future p</b>					
Hydrogen economy	Morning	Monday, 22 August	Topic Session title	Inorganic raw materials in a circular economy Closing inorganic raw materials cycles with novel technologies and	CDO talk Digital trans- formation in process industries	Additive manufacturing			Opportunities and challenges for the chemical industry in the industrial trans- formation Kopernikus project Ariadne	Industrial water management Water treatment	New Power-to-X concepts and technologies Power-to-X processes	CCPS Process Safety – digitali- zation and cyber security 1		
			17.001	concepts				Forum, I	Level 1: Opening					
			17:00 h						chemical indust	ry 2050				
	Moming		Торіс	Innovative mixing and sepa- ration solutions	The digital plant	Instrumentation, control and automation techniques	Digitalization in the process industry	Materials technology and testing	Exploration, validation and implementation of Power-to-X concepts	Industrial water management	Using resources adequately for safety – effi- ciency of safety studies and safety design	CCPS Process Safety – digitali- zation and cyber security 2	Engineering	C0 \
uction	W	gust	Session title	Adsorption and multiphase operations I	Digital opera- tions and predic- tive maintenance	Sensor connectivity and protection	Digital infrastructure		Kopernikus project P2X	Enhanced water treatment			Engineering – modules, reactors and plants	Ne
e prod		23 August	13:30 - 14:30 h						uropa: Highlight free production	Session				
Fossil-free production	noon	Tuesday,	Topic	Innovative mixing and sepa- ration solutions	The digital plant	Instrumentation, control and automation techniques	Industrial intelligence and sensor-based process control	Symposium VDM Metals	Modular production – a paradigm shift for the process industry	Industrial water management	Circular economy of carbon mate- rials – chemical recycling	EPSC – European Process Safety Centre	TransHyDE – Hydrogen transport infrastructure	
	Afternoon		Session title	Adsorption and multiphase operations II	Digital twins, in- frastructure and systems	Monitoring and control	Connectivity		Modular plant concepts	WATER-MINING: Developing circular solutions for smart water management	Recycling of polymers			
alytics	Morning		Торіс	Mechanical processes	Modular and connected production	Industrial intelligence and sensor-based process control	Modular production – a paradigm shift for the process industry	Materials and material processing	Flow Chemistry Symposium	Engineering	Safety and security	Digitalization in the process industry	Modular production – a paradigm shift for the process industry	co V
tory and and	Wo	Wednesday, 24 August	Session title		Expert insights and best practice reports	Process analytical technology	Modular plants and automation	Coatings and particles		Engineering – pharma and chemical appli- cations	Safety and security I	Application and implementation	Application concepts	Ne
aborat		day, 24	13:30 - 14:30 h						Europa: Highlight <b>d analytical tech</b> i					
Perspectives in laboratory and analytics	Afternoon	Wednes	Торіс	Innovative product design in mechanical process engineering	Modular and connected production	Industrial intelligence and sensor-based process control	Modular production – a paradigm shift for the process industry	Materials and material processing	Flow Chemistry Symposium	Modular production – a paradigm shift for the process industry	Industrial and labour safety	Plant design and maintenance	Industrial water management	
Per	Afi		Session title	Materials in motion	5G, cloud and edge computing, field-level com- munication	Process analyt- ical technology and control	Orchestration and integration	Corrosion and upscaling		Engineering		Digital twins in design and maintenance	Smart water solutions	
	ßu		Торіс	Innovative mixing and sepa- ration solutions	Data-driven innovation	Industrial intelligence and sensor-based process control		Digitalization in process industry	Flow Chemistry Symposium	Plant design and maintenance	Safety and security		Technology deployment @ Evonik	Pum sor fitti th
ess industries	Moming	August	Session title		Digital twins in engineering	Optical sensors and imaging		Digital twin		Maintenance in process industry	Safety and security II			Mc ar
proc		iy, 25 A	13:30 -					Hall 4.0, Room E	uropa: Highlight	Session				
Digitalization in process industries	uo	Thursday, 25	14:30 h Topic	Trends in national BMBF funded research	Data-driven innovation	Industrial intelligence and sensor-based process control		Digitalization in process industry	i in process indus Flow Chemistry Symposium	Plant design and maintenance	Plant design and maintenance		Modular production – a paradigm shift for the process industry	
Di	Aftemoon		Session title	Digitalization of materials & bio-inspired materials	Best practices in big data ana- lytics, artificial intelligence and machine learning	Digital twin		Data analytics and modelling		Reactor design	Plant design		Application in polymerization	
			10:30 -					Hall 4.0, Room E	uropa: Highlight	Session				
Novel bioprocesses and technologies	Morning	Friday, 26 August	11:30 h Topic		Digital driving sustainability			Bioprocessing: Bioreactors, process development and	esses and techno Informations- plattform für Ingenieure in der Produktion	logies The role of biorefineries in the circular bioeconomy	The role of biorefineries in the circular bioeconomy			
Novel bio and tech	Mor	Friday, 2	Session title		Innovative start-ups, expert insights and best practice reports			control Digital sensors and concepts	(in German only) – from 10:30 h	Biorefinery concepts for value creation from residual	Biorefinery processes for the valorization of side streams			
Hy	droge	en ec	onomy	Fossil-fr	ee production	Perspe	ectives in labo	pratory and an	alytics	biomass Digitalization	in process in	dustry		<u> </u>

#### Opening hours for visitors: Monday – Thursday: 9:00 – 18:00 h, Friday 9:00 – 16:00 h You can find the detailed lecture program at www.achema.de/congress and in the app

## ACHEMP/2022

netrie 2/3	Transparenz 1	EY Innovation	Europa	Consens	Entente	Alliance	Concorde	Action Area	Pharma	Max-Buchner-	Side Events
8.1	Portalhaus	Stage 6.0	4.0	4.C	4.C	4.C	4.C	Digital Lab 4.1	Innovation Stage 3.0	Auditorium DECHEMA	
					, Room Europa: H en: Unlocking the						9:00 h Innovation Challenge
		Hydrogen economy	Making hydrogen sustainable – an offshore approach	Industrialisation of water electrol- ysis for green hydrogen on a gigawatt scale	Hydrogen: Unlocking the future potential	Hydrogen: Unlocking the future potential	Hydrogen: Unlocking the future potential	The digital lab	Pharma innovation update	2 <sup>nd</sup> Sustainability Session – Circular Plastic (14:00 – 16:00 h)	"Plant Service Robot Hall 11.0, Stand E27 (all day) 11:00 h Automation in Dialog
		Green, turquoise, blue: Unlocking the future po- tential	Flagship project H <sub>2</sub> Mare	Flagship project H <sub>2</sub> Giga	Transport and infrastructure for hydrogen	Handling of hydrogen	Materials for hydrogen	Use cases, expert insights and best practices reports	Expert insights and best practice reports	Organized by Young Chemists Network (JCF) of the German Chemical Society	Hall 11.0, Stand E15
				Climate	Forum, Level 1: ( -neutral chemica					(GDCh)	
mps,	Data integration	Fossile-free	Carbon-neutral	Carbon2Chem <sup>®</sup> –	InnovA4Mix:	Carbon-neutral	Polymers from	Laboratory	Pharmaceutical,	International	9:00 h
pressors, ves and ttings	in process industry summit (DEXPI Group)	production	production sites	building block for climate protection	Innovative equip- ment technolo- gies for mixture evaporation and condensation in the process	production sites	renewable carbon sources for circular economy	and analytical techniques	packaging and storage tech- niques	Powder and Nanotechnology Forum 2022	Innovation Challenge "Plant Service Robot Hall 11.0, Stand E27 (all day) 11:00 h
rends for umps		Expert insights and best practice reports for climate neutrality	On the pathway to decarbonise the process industry I		industries	Novel processes to reduce CO <sub>2</sub> emissions		Laboratory equipment and automation		Nanotechnology	Automation in Dialog Hall 11.0, Stand E15 16:00 h India Day
			1	Hall 4.0	, Room Europa: H Fossil-free proc						Portalhaus, Level 1, Transparenz 2
	Data integration in process industry summit (DEXPI Group)	Fossile-free production	Carbon-neutral production sites	Carbon2Chem® – research and development	CO <sub>2</sub> -WIN: CO <sub>2</sub> as a sustainable source of carbon – pathways to industrial	Carbon-neutral production sites	International perspective on Power-to-X	The digital lab	Pharma innovation update	International Powder and Nanotechnology Forum 2022	17:30 h Japanese Reception Hall 4.C, Concorde
		Expert insights and best prac- tice reports for climate neutrality	On the pathway to decarbonise the process industry II		application	$\rm CO_2$ conversion		Use cases, expert insights and best practices reports	Expert insights and best practice reports	Crystallisation	
umps, pressors, ves and ttings	Data integration in process industry summit (DEXPI Group)	Start-up day	Innovative product design in process engineering	Research and innovation	The EGNATON guide to the sustainable laboratory	Strategies for a circular economy in plastics		The digital lab: miniaturised, automated, digitalized	(Bio)Pharma meets production	International Powder and Nanotechnology Forum 2022	9:00 h Innovation Challeng "Plant Service Robol Hall 11.0, Stand E27 (all day)
trends for seals		Start-up pitches and expert discussions	Innovative heat transfer equipment	Research and innovation I		(9:45–18:00 h)			Innovative production	Joint session of pharmaceutical and simulation	11:00 h Automation in Dialog Hall 11.0, Stand E15
					, Room Europa: H atory and analyti						17:00 h ACHEMA Start-up
	Data integration in process industry summit (DEXPI Group)	Start-up day	Thermal processes	Energy flexible factories as an opportunity for industry	The EGNATON guide to the sustainable laboratory	Strategies for a circular economy in plastics		The digital lab	Pharma innovation update		Award ceremony Hall 6.0, EY Innovation Stage 17:15 h Spanish Reception
		ACHEMA Start- up Award forum & ceremony		Kopernikus project SynErgie		(9:45–18:00 h)		Use cases, expert insights and best practices reports	Expert insights and best practice reports		Hall 4.C, Concorde
, compres- valves and s: State of rt in fluid ndling		Circular economy	Career Forum	Circular economy of carbon mate- rials – chemical recycling	Research and innovation			Laboratory and analytical techniques	(Bio)Pharma meets production	CAFIPLA – Better ways for biowaste	9:00 h Innovation Challenge "Plant Service Robot Hall 11.0, Stand E27 (all day)
ling tools pressure relief		Keynote by Dr. Klaus Schäfer, CTO Covestro, followed by expert insights and best		Aspects of circular economy and resource efficiency	Research and innovation II			Analytical techniques	Modular plant concepts	How to improve valorisation processes for bio-based products	11:00 h Automation in Dialog Hall 11.0, Stand E15 11:00 h
		practice report		Hall 4.0	, Room Europa: H alization in proce	lighlight Session					China Reception Portalhaus, Level 1, Transparenz 2
		Circular economy	Membranes and membrane processes	Digit		ess muustries		The digital lab	Pharma innovation update	CAFIPLA – better ways for biowaste	17:00 h ACHEMA Media Awa Hall 6.0, EY Innovation Stage
		Expert insights and best practice reports for closing the loops						Use cases, expert insights and best practices reports	Expert insights and best practice reports	How to improve valorization processes for bio-based products	
					, Room Europa: H					products	9:00 h
		Bio-based economy	Bioprocessing: bioreactors, process development and control	Novel Extraction	bioprocesses an Bioprocessing: bioreactors, process development and control	d technologies		Bioprocessing: bioreactors, process development and control	(Bio)Pharma meets production		Innovation Challeng "Plant Service Robo Hall 11.0, Stand E27 (all day)
		Novel biopro- cesses, technol-	White biotechnology		Modelling			Spectroscopy, microscopy and	Downstream		



#### ACHEMA Start-up Award



» Wednesday, 24 August 2022, 14:00 h, Hall 6.0, EY Innovation Stage

For the third time, entrepreneurial scientists, prospective founders and start-up owners were invited to submit an application for the ACHEMA Start-up Award – and for the first time on an international scale. A jury of experts selected the best 10 from more than 30 submissions. Selection criteria included the degree of innovation and robustness of the business plan.

You will meet the ten finalists of the ACHEMA Start-up Award in the Start-up Area and on 24 August 2022 at the Start-up Day during the Start-up Award pitches.

This is also where the three winners of the ACHEMA Start-up Award 2022 will be chosen.

## These start-ups are bringing innovations to the process industry

- » Carbon Minds
- » Cenios
- » Esy-Labs
- » Lumatix Biotech
- » Optoquant
- » Phaidra
- » PipePredict
- » Pramo Molecular
- » Prosion
- » Semodia



#### **Career Forum**

» Thursday, 25 August 2022, 10:30 h, Hall 4.0, Room Europa

Looking for a direct entry or trainee program with a top employer in the process industry? Interested in an exciting internship in the field of plant engineering, process engineering or materials technology? The Career Forum opens up opportunities and contacts with attractive employers and highlights career paths in the process industry.

#### **ACHEMA Study Courses**

Students from technical colleges, higher education institutions and universities (including Ph.D. students) can experience the full range of process technology at ACHEMA, supported by DECHEMA. They can visit ACHEMA free of charge and apply for a travel allowance if they register as a group in advance and are accompanied by a lecturer from their university who will provide technical support for the group at ACHEMA.

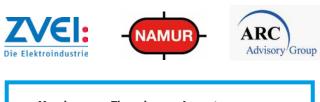
For the latest information and to register for the study courses, visit: **www.achema.de/study-courses**. Registration is open until 8 July 2022.





## **Automation in Dialog**

Hall 11.0



» Monday, 22 – Thursday, 25 August 2022

#### Off to ACHEMA 2022! We'll be there! ARC, NAMUR and ZVEI are organizing the forum "Automation in Dialog" at ACHEMA 2022. What does the future of modularization look like? What is NAMUR Open Architecture, and why is it key to the digitalization of the process industry? How do safety and security go together? Why do information models exist, and how do they accelerate our processes? These and many more questions are on the process industry's agenda, and we invite you to explore and discuss them with our experts. We look forward to seeing you there!

Further information: www.achema.de/side-events

#### International Powder and Nanotechnology Forum (IPNF) 2022

DECHEMA-House



» Tuesday, 23 – Wednesday, 24 August 2022

IPNF has been promoting technology exchanges between Germany and Japan in a variety of industries, including the chemical and pharmaceutical industries, since 1998. The event is a joint initiative of the Society of Chemical Engineers, Japan (SCEJ) and DECHEMA, and will also be held at INCHEM 2023 in Tokyo.

This forum consists of three sessions in the following four subject areas: Particle design and novel formulation processes, fundamental technologies for the realization of cyber-physical systems in production processes for solid forms of administration, nanomaterial development and novel catalytic applications, and mass production of pure protein by crystallization.

Further information: www.achema.de/side-events

#### ACHEMA Media Award 2022

Hall 6.o, EY Innovation Stage

#### » Thursday, 25 August 2022, 17:00 h

The 2022 ACHEMA Media Award will be awarded for journalistic articles from print, radio, television or the Internet that make scientific and technical topics accessible to a wider audience. The focus is on chemistry, process engineering and biotechnology, but also on related topics such as environmental technology. The main prize is worth 10,000 euros. The award ceremony will take place on 25 August 2022 at 5 p.m. on the EY Innovation Stage in Hall 6.0.



#### Information Platform for Plant Engineers

Hall 9.1, Discussion Corner

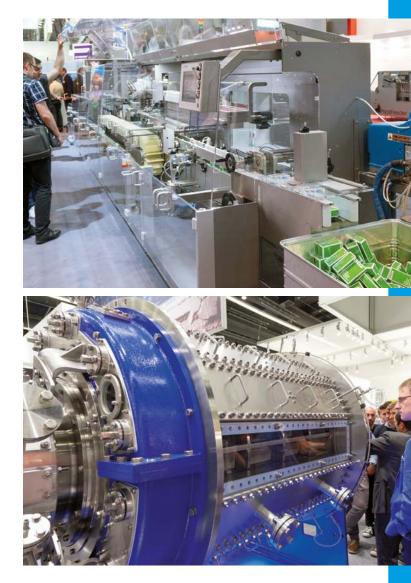


#### » Friday, 26 August 2022, 10:30 – 12:30 h

Production engineers are systemically relevant – and not just since Corona and interrupted supply chains. Production engineers guarantee the manufacture of important goods in the chemical and pharmaceutical industries. They bear a great responsibility for their plant and for safe and clean production with the best possible plant availability.

The "Information Platform for Production Engineers" is an initiative of the VDI Society for Process and Chemical Engineering (VDI-GVC), which deals with practice-oriented problems of production engineers relating to manufacturing plants. The concept is well established at Germany's major chemical sites and, thanks to digital media, now facilitates a practice-oriented exchange of experience in the region and beyond. It will be presented and moderated by experts. Short contributions will be used to discuss current challenges faced by production engineers.

The event will be held in German. Further information: www.achema.de/side-events



#### Strategies for a Circular Economy in Plastics: The Role of European Diversity

Hall 4.C, Room Alliance

» Wednesday, 24 August 2022, 9:45 – 18:00 h

In 2018, the EU adopted a European Strategy for Plastics to reduce plastic waste. This is intended to promote carbon neutrality and a circular economy to achieve the United Nations' 2030 Sustainable Development Goals. The chemical industry has been forced to rethink and review its strategies in the polymer/plastics business. The plastics strategy aims to change the way polymers/plastics are developed, manufactured, applied and recycled. We therefore need joint efforts and collaboration between industry and the scientific community



by promoting discussions and building networks to solve the challenges of plastic waste. This event on the circular economy is organized by the Chemical and Business Association (VCW). The VCW is a forum where such discussions can be initiated, the current state of the art and success stories from industry and academia can be acknowledged.

Further information: www.achema.de/side-events



#### **Flow Chemistry Symposium**

Hall 9.1, Discussion Corner

FLOW CHEMISTRY

» Wednesday, 24 – Thursday, 25 August 2022

This two-day technical symposium, organized by the Flow Chemistry Pavilion (Hall 9.1, E64), is dedicated to flow chemistry and acknowledges the increasing importance of this technology in research and production.

Join us to discuss the latest developments in continuous production, with solutions covering all aspects of upstream and downstream process technology – from fluid handling to reactor technology, product isolation, crystallization and digitalization.

The **#flowcommunity** is back!

More information at: www.teknoscienze.com/achema-2022-flow-pavilion

#### Innovation Challenge "Plant Service Robot"

Hall 11.0, Stand E27



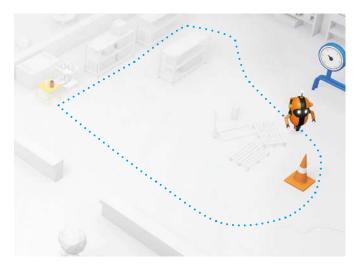
» Monday, 22 – Friday, 26 August 2022

Appearing live at ACHEMA 2022, autonomous mobile robots will compete to capture sensor images, take samples, and negotiate industrial stairs. In cooperation with BASF, Bayer, Boehringer Ingelheim, Merck and Wacker Chemie, INVITE GmbH is conducting this open innovation challenge under the auspices of NAMUR.

The search is on for an autonomous service robot named Andy that can take over recurring tasks 24/7, such as safety patrols in chemical and pharmaceutical plants. Particular challenges include safely navigating through industrial facilities with obstacles, such as stairs, or accurately collecting data through image recognition of displays, as well as simple interactions. The underlying objective of the idea is to assist employees, increase safety and improve the availability of production facilities.

Six teams will participate with the latest walking robots from leading suppliers, as well as other innovative mobile platforms.

For more information on the participating teams, visit www.aira-challenge.com



#### Visitor Service Opening Hours, Entrance Fees

<b>Opening Hours</b>	Admission tickets	EUR
» Monday, 22 August –	Season tickets (not transferable)	
Thursday, 25 August 2022 9:00 – 18:00 h for visitors	for employees in industry, trade and commerce	90.00
8:00 – 19:00 h for exhibitors	for employees in universities, public authorities, associations	60.00
<ul> <li>» Friday, 26 August 2022</li> <li>9:00 – 16:00 h for visitors</li> </ul>	Reduced season ticket for students, trainees, pupils, pensioners, unemployed and severely disabled	30.00
8:00 – 19:00 h for exhibitors	Day tickets	
	Day ticket	40.00
	Reduced day ticket for students, trainees, pupils, pensioners, unemployed and severely disabled	8.00
	All tickets entitle the holder to visit the exhibition and the lecture pro Lost tickets cannot be replaced.	gram.
	Please order season and day tickets at www.achema.de/visitors	

#### **ORDERING SEASON AND DAY TICKETS**

#### **ENTRANCES**

You can order a season or day ticket conveniently on the Internet (www.achema.de/visitors).

Season and day tickets must be purchased online in advance.

Holders of reduced-price tickets for students, schoolchildren, trainees, the unemployed, the severely disabled and pensioners are requested to present the corresponding ID or proof of eligibility without being asked to do so upon entry.

Advance orders for season and day tickets are only possible for quantities of at least 20 tickets (orders to: tageskarten@achema.de).

To register "Study Course" participants, please see p. 21.

Payment for season and day tickets ordered online can be made by credit card (American Express, MasterCard, VISA) or PayPal. The ticket store uses the 3-D Secure process. After completing your order, you will receive your personal Print@home Ticket and Mobile Ticket for ACHEMA.

#### CANCELLATIONS

Season and day tickets cannot be returned or refunded.

- » City entrance (streetcar and subway ("U") stop "Festhalle/ Messe")
- » Torhaus (S-Bahn urban rail stop "Frankfurt/Main Messe")
- » Galleria (multi-story parking lot and Rebstock large parking lot)
- » Portalhaus (multi-story parking lot and Rebstock large parking lot)

#### VISITOR INFORMATION

Tel.: +49 69 7564 750 Email: visitor@achema.de Internet: www.achema.de/visitors (incl. FAQ)

#### LECTURE PROGRAM

Tel.: +49 69 7564 125 Email: lecture@achema.de Internet: www.achema.de/congress

#### Congress office until 19 August 2022

DECHEMA e.V. Tagungen Theodor-Heuss-Allee 25 60486 Frankfurt am Main, Germany

Business hours: Mon – Thu: 8:30 – 17:00 h Fri: 8:30 – 15:00 h

## Congress office and lecture management from 22 August 2022

Hall 4.0 Tel.: +49 69 7564 125

Business hours: Mon – Thu: 8:00 – 18:00 h Fri: 8:00 – 14:00 h

#### ACCOMMODATION

Room reservations for visitors to ACHEMA 2022 are made by Tourismus+Congress GmbH Frankfurt am Main (TCF).

Room reservations online at: www.frankfurt-tourismus.de/hotel

#### **Consultation and Booking**

Tel.: +49 69 24 74 55 400 Email: **info@infofrankfurt.de** 

#### Tourist Information Frankfurt am Main (Central Station), Reception Hall

Opening hours Mon – Fri: 8:00 – 21:00 h Sat & Sun: 9:00 – 18:00 h

Travel agencies and contact addresses of international tour operators can be found at www.achema.de/travel-offers.

#### SERVICE FACILITIES

A hall overview and a plan indicating the service facilities will be available to all visitors at the entrances.s.

#### Mail and Shipping Service

Post Shop – DHL Trade Fairs & Events GmbH

Exhibition Grounds, Torhaus, Level 3 60327 Frankfurt am Main

Delivery and collection service, DHL Paket, DHL Express, DHL Brief

Opening hours: 22 – 26 August: 9:00 – 17:00 h Email: **express-service.fairs@dhl.com** 

#### **Banks/Exchange Bureaus**

In 2022, no banks will be available on the exhibition grounds.

**ReiseBank AG, Frankfurt** Main station, exit south

Opening hours: Daily: 8:00 – 19:00 h

#### ATMs

- » City entrance, Level o
- » Hall 4.1, foyer
- » Torhaus entrance, S-Bahn terminal
- » Torhaus, Service Center, Level 3 (next to DHL service)
- » Galleria entrance, Hall 9.T
- » Portalhaus entrance, Hall 11

#### **Interpreting Service**

BBK-Gesellschaft für moderne Sprachen mbH

Tel.: +49 7274 702 770 Email: info@bbklanguages.com

#### Lufthansa

#### Lufthansa check-in and baggage service

at the City entrance, Level o Tel.: +49 69 86 799 799

Opening hours: 23 – 25 August: 8:00 – 17:00 h 26 August: 8:00 – 16:00 h

#### **Shopping Facilities**

- » City entrance, trade fair shop
- » Hall 4.0
- » Hall 4.1 foyer, trade fair shop
- » Torhaus, Service Center, Level 3
- » Hall 9.0 foyer

#### CATALOG

The printed catalog is published at the start of the event and is available free of charge in the entrance areas of the exhibition grounds. Availability only as long as stocks last. The contents are summarized in one volume and include:

- » Hall overview and site plan
- » Alphabetical list of exhibitors
- » Product brand directory

#### **VISA ISSUANCE**

Visitors from abroad requiring a visa to enter the Federal Republic of Germany can request a personal letter of invitation on the Internet at www.achema.de/visa-invitation. However, DECHEMA is generally unable to assume travel or accommodation costs.

Due to the high demand for visa appointments, a longer waiting time is to be expected at all German embassies.

When planning your trip, please take this into account and make an appointment with your embassy as soon as possible!

Email: visa@achema.de

#### **Transport Connections**

#### By Car:

The multi-story parking lot and the parking lots on the Rebstock grounds are easily accessible from the highway (day ticket for multi-story parking lot/parking lots:  $\in$  19.–/ $\in$  14.–). During ACHEMA, a free shuttle bus runs from there to the exhibition grounds (Galleria and Portalhaus Hall 11 entrances) approximately every 5–10 minutes.

#### SHUTTLE BUS SERVICE TIMES

 21 August:
 8:00 - 22:00 h to the West Gate/South Gate

 22 - 25 August:
 7:45 - 20:00 h

 26 August:
 7:45 - 2:00 h

(last departure in the direction of Rebstock) Use "Zum Messeparkhaus Rebstock" in your satellite navigation.

» Site plan on page 20

#### FRANKFURT AM MAIN LOW EMISSION ZONE

Since 1 January 2012, only vehicles displaying a green sticker have been allowed to enter the low emission zone. Vehicles from Germany and abroad with the corresponding emissions groups can obtain the required environmental sticker at www.umwelt-plakette.de.

Access to the exhibition grounds is possible for vehicles without an emissions sticker via the West Gate and the North Gate. These can be reached via the A5 and the A648, exit Rebstock or via the Katharinenkreisel (roundabout). The Rebstock multi-story parking lot can also be reached without an emissions sticker via the Rebstock exit.

#### **CHARGING STATIONS**

We can reserve a parking space with a power outlet for you on request. The availability of charging stations is still limited as the network is under construction, so please register early: emobil@messefrankfurt.com

brussels

#### By Plane:

There are daily direct flights to Frankfurt Airport (IATA-Code: FRA) from many cities and industrial centers. The fastest connections from the airport to the Frankfurt exhibition grounds are as follows:

- » S-Bahn urban rail lines S8 and S9 from the regional train station to the main train station.
- » By airport express bus from the airport Terminal 1

   (arrivals level, charter bus lane stop) via Terminal 2
   (bus stop in Exit E area) to the exhibition grounds
   (entrance Portalhaus Hall 11) and back.

The single fare is € 7.50.

Operating times airport » trade fair:

22 – 26 August: 8:00 – 12:00 h every 10 minutes

Operating times trade fair » airport:

22 – 26 August: 14:00 – 19:00 h every 10 minutes

#### SPECIAL RATES OFFERED BY LUFTHANSA GROUP AIRLINES

The Lufthansa Group Airlines connect people – every day, throughout the world. The global route network of Austrian Airlines, Lufthansa, SWISS, Brussels Airlines and Eurowings offers optimal connection and combination options. So you benefit from fast and direct flight connections to Frankfurt am Main for ACHEMA 2022.

Using the event code **DEAUPGN**, you can access the booking process via the link **www.lufthansa.com/de/en/meetings-and-events-delegates.** The discounted rates will be displayed automatically.

Please note: Pop-ups need to be enabled in your browser during the booking process. Otherwise, the window in the booking platform will not open.

Of course, you can also book through your IATA travel agency. By quoting the event code **DEAUPGN**, the travel agency can request the ticketing instructions by email to **lufthansa.mobility@dlh.de** 

Lufthansa also offers check-in and baggage services on the fairgrounds (page 26).









#### By Train:

Frankfurt Main Station is easy to reach by train. Information is available from all DB sales offices, from your travel agent or on the Internet www.bahn.de.

## FROM THE MAIN STATION TO THE FRANKFURT TRADE FAIR

- » S-Bahn (lines S3 S6, departure from Frankfurt Hauptbahnhof underground platform 104) to the Messe stop (entrance Torhaus)
- » Streetcar lines 16 and 17 to Festhalle/Messe stop (City entrance)
- » U4 subway line in the direction of Bockenheimer Warte to Festhalle/Messe stop (City entrance)
- » By foot approx. 15 minutes via Düsseldorfer Strasse and Platz der Republik to Friedrich-Ebert-Anlage (City entrance)

#### **DEUTSCHE BAHN – BEST PRICE**



With the Deutsche Bahn event ticket, you can travel on longdistance trains using 100% eco-electricity and thus sustainably reduce the CO2 emissions of your journey to ACHEMA 2022.

The nationwide standardized fixed prices for one-way travel are as follows:

- » Fixed train connection 2nd class: € 49.50 and 1st class: € 80.90
- » Without fixed train connection 2nd class: € 67.50 and 1st class: € 98.90

The prices are valid regardless of the DB station you depart from. The event ticket is valid on all ICE, EC/IC and local trains as well as S-Bahn trains operated by Deutsche Bahn.

The tickets are valid for a single round trip between 20 – 28 August 2022 and are valid for two days in each direction of travel.

The event tickets can be booked online: www.achema.de/travel-information

If you have any questions about the booking process, please call the service number +49 (0) 30 586 020 901.

For schoolchildren and students up to and including the age of 27, the standard nationwide fixed prices for a single journey in 2nd class with a fixed train connection are  $\notin$  40.50, and  $\notin$  49.50 without a fixed connection.

Deutsche Bahn will be happy to provide you with the ticket price for international connections on request.



#### **Health and Safety Concept**



Please note that health and safety regulations may change at any time before the event:

You can find the latest information at www.achema.de/health-and-safety

We make the ACHEMA participation particularly safe for you – with a professional and proven health and safety concept for all participants.

Together with Messe Frankfurt, we are taking a series of measures that are seamlessly coordinated and enable the core of ACHEMA, personal contacts, to take place safely and promisingly – regardless of the further course of the pandemic.

Online ticketing, an adequate and optimized mix of fresh air, spacious hall layout, optimised visitor flow management, safe catering concepts, disinfection stations covering the entire area, consistent cleaning and disinfection of contact surfaces as well as sanitary rooms and much more: many measures that we are now familiar with in everyday life also create the framework for a safe and successful ACHEMA during the exhibition days.

At the time of printing of this brochure there will be no access restrictions to ACHEMA. However, to further increase your personal protection, we currently recommend that you wear a mouth-nose protection in indoor areas as the situation requires.

#### **EXHIBITING SAFELY**

At each exhibition stand and in all lecture areas the conditions for a safe personal exchange as well as promising business contacts will be created, considering the health and safety regulations in force at the time of the event. We support our exhibitors in this and advise on any adapted stand construction guidelines for stand design and operation.



## Frankfurt am Main-More than a Financial Center and Trade Show Metropolis

Experience Frankfurt from its recreational side! Discover the city's historical and contemporary sights. Or just escape the hustle and bustle of the trade show for the summery flair of the River Main's banks. All this is hardly more than a stone's throw away from Frankfurt's exhibition grounds!

Details at www.frankfurt-tourismus.de



#### City Tour: Frankfurt's New Old Town and Other Highlights

» Daily at 14:00 h as a guided tour by #visitfrankfurt.

Explore sights like the new Old Town, the Römerberg historical square, the Cathedral or St. Paul's Church and enjoy the view of the Frankfurt skyline from the banks of the River Main!

Meeting point: In front of the Römer Tourist Information

#### **Boat Tour**

The daily Primus Line boat trips pass through Frankfurt upstream towards Gerbermühle and back downstream. The journey time is 50 minutes one way, both trips combined: 100 minutes.

The classic round trip.

Meeting point: Primus-Line pier, Eiserner Steg

#### Museumsuferfest

(Museum Embankment Festival)

#### 26 – 28 August 2022

Art, culture and music come together for three days in one big, spectacular festival. With an extraordinary range of programs offered by Frankfurt's museums, numerous stage productions and shows, the Museumsuferfest is one of Europe's largest cultural festivals. The festival ends with a gigantic musical fireworks display.

Venue: Museum embankment Frankfurt

» www.museumsuferfest.de



#### **Sights in Brief**

#### Römerberg, Ostzeile and Old Nikolai Church

Historic city center, Gerechtigkeitsbrunnen (Fountain of Justice) in the center, reconstructed Ostzeile (eastern row), court and council chapel. For centuries, the square served as a place for markets, fairs, tournaments, festivals and as a place of execution.

#### Römer (City Hall)

Patrician house with three stepped gables, site of negotiations for the election of the emperor. City hall since 1405.

#### New Old Town

Reconstruction of the Old Town based on the historical town layout, Coronation Way from the Römer to the Cathedral.

#### **Imperial Cathedral**

Gothic cathedral, dedicated to St. Bartholomew. Due to the Golden Bull, place of election of Roman kings since 1356.

#### Paulskirche (St. Paul's Church)

Consecrated as a Protestant church in 1833. The first German National Assembly was held there in 1848. Now used as an event venue for the city.

#### **Carmelite Monastery**

Monastery complex from the 13th century, today Institute for City History and Archaeological Museum. Noteworthy frescoes (in the cloister) from the 16th century.

#### **Eiserner Steg (Iron Footbridge)**

Built in 1868, the bridge connects the old town with the Sachsenhausen quarter. The pedestrian bridge offers a great view of the skyline and the museum embankment. Jetty for boat tours.

#### Hauptwache (Main Guardroom)

Originally the guard building of the Frankfurt police, where notorious bandit chief "Schinderhannes" was also imprisoned. A café since 1904 and a good place to start a shopping tour of the Zeil, Goethestraße or Freßgass'.

#### **Stock Exchange**

Built in the 19th century, second-largest stock exchange in Europe, with "Bull and Bear" sculpture in front.

#### Alte Oper (Old Opera House)

Significant concert and congress hall, built in the 19th century, destroyed in the 2nd World War, reconstructed in 1981.

#### **Main Tower**

with viewing platform at a height of 200 meters.

#### Palmengarten (Palm Garden)

The Palmengarten is Frankfurt's most popular green retreat. It combines the preservation of biodiversity with the presentation of plants from all over the world. More than 13,000 subtropical and tropical species are displayed in the greenhouses of the sprawling park. The new flower and butterfly house is a particular highlight.

#### Senckenberg Natural History Museum

The Senckenberg is one of the largest natural history museums in Germany and presents the development of life and its diversity in a tangible way. In addition to the countless, sometimes unique exhibits from the world of mammals, insects and fish, the free-standing dinosaur skeletons in particular delight visitors young and old.







#### **TOURIST INFORMATION**

Tourist Information Main Station Entrance Hall

- » Monday Friday 8:00 21:00 h
- » Saturday Sunday 9:00 18:00 h

Tourist Information Römer Römerberg 27

- » Monday Friday 9:30 17:30 h
- » Saturday Sunday 9:30 16:00 h
- » Tel.: +49 69 24 74 55 400
- » Email: info@infofrankfurt.de

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#### **Dates and Services for Journalists**

All information – press releases, images and logos, current dates – as well as accreditation can be found at **www.achema.de/press** or during ACHEMA in the ACHEMA Press Center.

#### **ACHEMA Media Insights**

» Tuesday, 3 May 2022, 10:00 – 13:00 h virtual

Industry representatives and exhibitors inform you about ACHEMA 2022 – experience your first insights into the exhibition virtually with us.

#### **Opening Press Conference**

» Monday, 22 August 2022, 10:00 h Forum, Level 1

Facts and figures at ACHEMA's launch: What can exhibitors and visitors expect? Which trends will determine what happens at the stands and on the stages of the exhibition halls?

#### **Press Breakfast**

» Wednesday, 24 August 2022, 10:00 h ACHEMA Press Center, Torhaus, Level 4

Organizers and industry representatives discuss moods and trends at the halfway point of ACHEMA.



#### ACHEMA PRESS CENTER

Torhaus, Level 4

 » Monday, 22 August – Thursday, 25 August 2022, 8:30 – 18:30 h
 » Friday, 26 August 2022, 8:30 – 14:00 h

#### CONTACT

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#### **Worldwide Services**

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#### **ACHEMA** Committee

Engineering

Jürgen Nowicki (Chairman of the ACHEMA Committee) Linde GmbH, Pullach

#### Laboratory and Analytical Techniques

Andrea Hideg SPECTARIS – German Industry Association for Optics, Photonics, Analytical and Medical Technology e.V., Berlin

Dr. Tanja Musiol Eppendorf AG, Hamburg

Günther Rossdeutscher asecos GmbH, Gründau

Literature, Information, Learning and Teaching Aids Ken Fouhy VDI Verlag GmbH, Düsseldorf

**Mechanical Processes** Richard Clemens VDMA e.V., Frankfurt am Main

Instrumentation, Control and Automation Techniques Stefan Basenach ABB AG, Mannheim Andrea Lüdecke Siemens AG, Nuremberg Stephan Neuburger

Ludwig Krohne GmbH & Co. KG, Duisburg Felix Seibl

ZVEI – German Electrical and Electronic Manufacturers' Association, Frankfurt am Main Alexander Vargas

Festo SE & Co. KG, Denkendorf

Nils Weber NAMUR – user association for automation in process industries, c/o Bayer AG, Leverkusen

Pharmaceutical, Packaging and Storage Techniques Thomas Fricke IMA Group, Bologna Uwe Harbauer Syntegon Technology GmbH, Crailsheim

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Materials Technology and Testing Clemens Schmees SCHMEES cast Langenfeld GmbH, Langenfeld

#### **Honorary Delegates**

#### Australia

Stuart Sneyd Metso Outotec **Sydney** 

#### India

Maulik Jasubhai Jasubhai Group Chemtech Foundation **Mumbai** 

#### **United Arab Emirates**

Oliver Oehms German Emirati Joint Council for Industry and Commerce (AHK) **Dubai/Abu Dhabi** 

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#### EVENT LOCATION:

Exhibition Grounds Ludwig-Erhard-Anlage 1 60327 Frankfurt am Main

#### PHOTOS:

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#### EVENT ORGANIZER:

» DECHEMA Gesellschaft für Chemische Technik und Biotechnologie e.V.

» DECHEMA Ausstellungs-GmbH

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