INDIN
2007
CONFEREECE PROGRAM
5th IEEE International Conference on Industrial Informatics
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Welcome Message  
from the conference chairs

On behalf of the IEEE Industrial Electronics Society (IES) and the INDIN 2007 Organizing Committee, it is our pleasure to welcome you to the 5th IEEE Conference on Industrial Informatics in Vienna. INDIN has become one of the major annual events of the IES, attracting a large number of experts in the area of industrial information technologies. INDIN 2007 is organized by the IES and the Vienna University of Technology, in cooperation with OVE, ONEEIDA, and with substantial support from Siemens Austria.

We would like to thank all the volunteers who have made INDIN 2007 possible. Most notably, we thank our Track Chairs, Special Session Chairs and the Technical Program Committee on putting together an excellent technical program. Special thanks go to all authors for their participation in INDIN 2007, as well as the many reviewers worldwide for their contribution in making this a quality conference. Finally, we express our sincere thanks to the members of the Local Organizing Committee for their excellent preparation to make this a memorable event.

Beside the scientific program – tutorials, panel presentations, poster discussions and panel discussions at the Industrial Day – INDIN 2007 offers a charming social program. A welcome reception at a Winery on the hills of Grinzing and a conference banquet in one of Vienna’s famous palais are an attempt to introduce the INDIN community to this marvellous venue and its famous cuisine.

This 5th IEEE Conference on Industrial Informatics promises to be an excellent opportunity for all delegates to further their technical knowledge, and enjoy the hospitality of Vienna. We look forward to seeing all of you at INDIN 2007, renewing old friendships, making new ones and enjoying an outstanding technical and social program.

Yours sincerely,

Dietmar Dietrich  
General Co-Chair

Gerhard Hancke  
General Co-Chair

Peter Palensky  
Technical Program Chair
General Information

Registration Desk

Please register at our registration desk in the hall as soon as possible during our opening hours (see below). Here you will receive your conference bag, the printed proceedings and your badge, which serves as admission ticket for all INDIN events.

Opening hours

The registration desk is open on Tuesday, Wednesday and Thursday, starting from 8:00 am.

On-site registration

If you have not already registered for INDIN online in advance, you can also register at the conference venue.

Additional social program ticket

At the registration desk you can purchase additional tickets for the welcome reception and the Banquet dinner (both in one), in case you have not already registered for these events online in advance, or you would like to take a non-INDIN delegate with you. The price for the social program ticket is EUR 100.

Accepted payment methods

You can pay by VISA, MasterCard or Diners as well as in cash (Euro only).

Badge

Upon registration you receive your INDIN Badge. Please wear it at all technical and social program events of the INDIN Conference. Your badge serves as admission ticket for panel sessions, conference banquet and all other INDIN events.
Internet Access

There will be free wireless Internet access available for you at the venue. Please connect to the open WLAN with SSID “TGV x.x”, where x can vary depending on room and floor. Configure the WLAN using the following settings:

- Network Authentication: Open
- Data Encryption: Disabled

Panel presentations

Panel presentations are to be done via PPT or PDF presentations with maximum 20 minutes of time (including questions). Laptop computers and digital projectors for presentation are available; bring your files on a USB thumb drive or CD. Please come forward to the session organisers in the break/coffee break before your session for copying your files on the presentation computer.

Please note that we do not guarantee that video clips included in your presentations will actually work.

If you have only hand written transparencies, please mail black-and-white A4 paper copies to the conference secretariat; we will scan it into a PDF file for presentation.

Posters

Poster sessions are on Tuesday, Wednesday and Thursday after lunch (see section “Technical Program”). On Wednesday there will be a Student Poster display. The best student poster will be awarded during the conference diner.

If you have been accepted for a poster presentation, please print the poster by yourself and bring it with you. The presentation is interactive and has typically more time, and a larger and very interested audience. Poster format is ISO A0 (1189 x 841 mm, 46.81 x 33.11 inch). There are no restrictions in layout. The poster must include the following parts of your paper:

- the full title and all authors
- the abstract
- all (important) figures
- the problem statement
- the solution
Tutorials

INDIN 2007 aims to network researchers, academics, engineers, and industry experts to discuss break-through research, new ideas, recent developments, and new applications related to industrial informatics.

Tutorials are held on Monday, July 23. For more details, please refer to Page 8.

Industrial Day

The first IEEE INDIN Industrial Day is a forum for technology experts, researchers and industrial managers to discuss today’s and tomorrow’s challenges in academic/industrial cooperation. The motto of this industrial day is “the future of manufacturing”. More information can be found in the technical program section.

Bank, Currency, Credit Cards

The national currency in Austria is Euro (€). Money can be drawn from cash machines using Maestro cards and credit cards. Please check with your own bank for applying transfer fees.

In the inner city major credit cards such as MasterCard, Visa etc. are widely accepted.

At the INDIN Registration Desk you can pay for your on-site registration by VISA, MasterCard or Diners as well as in cash (Euro only).

Liability & Insurance

The organizers cannot be held responsible for accidents to conference participants or accompanying persons, for damage, or loss of their personal property, of for cancellation expenses regardless of cause.

Public Transport

In the city

Vienna has an extensive tram and bus network - the tram network being third largest in the world. In the most populated areas of Vienna, transportation systems are run so frequently (even during off-peak hours), that any familiarity with departure timetables is virtually unnecessary. The convenience and flexibility of the public transport is therefore reflected through its popularity.
To and from the airport

**By taxi** – This way of transportation costs approximately 30 €. The actual price depends on the taxi company.

**By train** – There are two trains available, the ÖBB S-Bahn and the City Airport Train (CAT). Both trains arrive at the station "Landstraße Wien-Mitte", where you can change to subways U3 and U4. The **S-Bahn** departs each 30 minutes (Airport .09 and .39) and costs 3,40 €. It takes 24 minutes to "Landstraße Wien-Mitte". The **City Airport Train** has also a frequency of 30 minutes, but leaves the airport at .05/.35 and needs only 16 minutes for journey. Tickets cost 8 € for one direction and 15 € for round trip.

**By bus** – Two bus services connect the airport with Westbahnhof and Schwedenplatz. Both have a 30 minutes frequency. Tickets start from 6 € for a single trip.

At the airport exit there is a screen showing the next departures of trains and buses.

For information about the **conference venue** please refer to the next chapter.
Conference Venue

The conference takes place at:

Tech Gate Vienna Wissenschafts- und Technologiepark GmbH
Donau-City-Straße 1
1220 Vienna, Austria

Arrival by underground train:

Use Vienna’s underground line U1 and go to the station “Kaisermühlen – VIC” (Exit Schüttaustraße).

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Technical Program

Monday, 23rd of July – Tutorials

9:30 – 12:30  Tutorial 1
Joint European Effort in creating a Safe Network based on the EN 14908 networking standard (LON)

Presenters:
Dr. Jürgen Hertel, Consortium Manager of SafetyLon Project (Tutorial Coordinator)
Dr. Peter Wratil, Managing Director of Innotec GmbH (Hamburg)
Dr. Dietmar Loy, Engineering Manager, Loytec GmbH, Vienna
Grzegorz Hayduk, Software Engineer, AGH-UST University, Krakow
Martin Mentzel, Technical Project Coordinator, Fachhochschule Dortmund
Chris Brönnimann, Managing Director of Ingenieurbüro Brönnimann, Thun (CH)

9:30 – 17:30  Tutorial 2
Modeling Distributed Control Systems within ODECE based on IEC 61499

Presenters:
Dr. Thomas Strasser, Profactor Produktionsforschungs GmbH, Steyr
Alois Zoitl, ACIN, Vienna University of Technology

13:30 – 17:30  Tutorial 3
Agent-Oriented Software Engineering

Presenter
Massimo Cossentino, ICAR-CNR
Tuesday, 24th of July – INDIN Sessions

08:30 - 08:40   Welcome
Peter Palensky, Technical Program Chair

08:40 - 09:25   Keynote
Trends and Innovations in Process Automation
Norbert Schadler, Siemens

09:25 - 10:10   Keynote
Technologies for Achieving Field-Ubiquitous Computing
Akira Nagashima, Yokogawa Electric Corporation

10:10 - 10:20   Break

10:20 - 12:05   Panel Sessions

S01-1 ENERGY MANAGEMENT AND MICRO GRIDS
IT AND ENERGY
ROOM 1.2
TUESDAY, 24/07/2007, 10:20 - 12:05

A closer look on load management
Friederich Kupzog, Charlotte Roesener, WF-005169, Volume 2, Page 899

KNIVES: Network based Demand and Supply Control System - Enhancement for Network and Environmental Affinity -
Toshihiko Handa, Charlotte Roesener, Junichi Ichimura, Hiroaki Nishi, WF-003859, Volume 2, Page 919

Neural Implementation of MicroGrid Central Controllers
Fabrizio Pilo, Giuditta Pisano, Gian Giuseppe Soma, WF-006637, Volume 2, Page 925

VPPs information needs for effective operation in competitive electricity markets
Hugo Morais, Marílio Cardoso, Luís Castanheira, Zita Vale, Isabel Praça, WF-006084, Volume 2, Page 931
An Open Source IEC 61131-3 Integrated Development Environment
Edouard Tisserant, Laurent Bessard, Mário de Sousa, WF-005932, Volume 1, Page 183

Development of a Methodological Framework for the Self Reconfiguration of Automated Visual Inspection Systems
Hugo Garcia, Rene Villalobos, WF-003263, Volume 1, Page 207

New Simulation Models to Evaluate Performance of PROFINET IO Class 1 Systems
Paolo Ferrari, Alessandra Flammini, Daniele Marioli, Andrea Taroni, Francesco Venturini, WF-004952, Volume 1, Page 237

Service model for the management of industrial environments. Dynamic reconfiguration of production elements
Diego Marcos-Jorquera, Francisco Maciá-Pérez, Virgilio Gilart-Iglesias, Juan Antonio Gil-Martínez-Abarca, WF-004871, Volume 1, Page 249

Simulation of Industrial Applications using the Execution Environment SCXML
Raimundo Moura, Luiz Guedes, WF-000981, Volume 1, Page 255

A Comparative Study of Dynamic Learning Rate BPN and Wavelet Neural Networks
Y. Z. Zhao, J. B. Zhang, A. J. R. Aendenroomer, WF-000574, Volume 2, Page 611

Developing Intentional Systems with the PRACTIONIST Framework
Vito Morreale, Susanna Bonura, Giuseppe Francaviglia, Fabio Centineo, Michele Puccio, Massimo Cossentino, WF-006475, Volume 2, Page 633
Learning by Bagging and Adaboost based on Support Vector Machine
Yu Wang, Cheng-De Lin, WF-002828, Volume 2, Page 663

Modeling Product Engineering and Manufacturing Activity in Vehicle Development Process
João Ferreira, André Carvalho, João Pimentel, Marco Guedes, Francesco Furini, Nuno Silva, WF-03921, Volume 2, Page 675

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T04-1 POWER SYSTEM APPLICATIONS
APPLICATIONS OF INDUSTRIAL INFORMATICS
ROOM 4.1
TUESDAY, 24/07/2007 10:20 - 12:05

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Design and Implement of Distribution Transformer Outage Detection System
Hau-Ren Lu, Leether Yao, WF-005908, Volume 1, Page 323

Outlier Identification and Justification Using Multi-Objective PSO based Clustering Algorithm in Power System
Li Feng, Ziyuan Liu, Chao Ma, WF-002364, Volume 1, Page 365

Platform based development of embedded systems for traction and power engineering applications - experiences and challenges
Sinisa Marijan, Ivan Petrovic, WF-005576, Volume 1, Page 371

The Efficient Offline Search System for High Risk Events of Power Systems Caused by Transient Stability
Tetsushi Miki, WF-001945, Volume 1, Page 399

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12:05 - 13:05  Lunch

13:05 - 13:35  Poster Session

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I1 INTERACTIVE SESSION 1
INTERACTIVE SESSION
ROOM 0.5
Design of a communication system for integration of industrial networks over public IP networks
Nunzio Torrisi, Dennis Brandão, Rodrigo P. Pantoni, João F. G. Oliveira, WF-005428, Volume 1, Page 201

Extending the Mean-Value Analysis Algorithm According to the Thread Pool Investigation
Ágnes Bogárdi-Mészöly, Tíhamér Levendovszky, Hassan Charaf, WF-006122, Volume 2, Page 731

Measuring Semantic Gap: An Information Quantity Perspective
Qinsheng Zhuang, Junkang Feng, Hong Bao, WF-000663, Volume 2, Page 669

Radio Map Filter for Sensor Network Indoor Localization Systems
Yong Wu, Jianbin Hu, Zhong Chen, WF-003573, Volume 1, Page 63

Removal of Muscular and Artefacts Noise from the ECG by a Neural Network
Jorge Mateo Sotos, José Manuel Blas Arnau, Ana María Torres Aranda, César Sánchez Meléndez, WF-006939, Volume 2, Page 687

Requirement Analysis and Optimization of combined Networks
Andriy Luntovskyy, Volodymyr Vasyutynskyy, Cemal Oezluek, Dietbert Guetter, WF-000515, Volume 1, Page 69

Simulation Results for the ARS-PA Model
Tobias Deutsch, Heimo Zeilinger, Roland Lang, WF-007587, Volume 2, Page 1021

The Realization of the Performance Estimation System on AIS SOTDMA Algorithm
Hyosung Lee, Seungmin Lee, Heungho Lee, WF-006815, Volume 1, Page 405

Two-stage product definition for mass customization
Li Yu, Liya Wang, WF-002925, Volume 2, Page 699

UPnP Compression Implementation for Building Automation Devices
Stefan Knauth, Rolf Kistler, Daniel Käslin, Alexander Klapproth, WF-004715, Volume 1, Page 75
Establishing Large-Scale Renewable Reserve Capacity through Distributed Multi-Agent Support  
Horst F. Wedde, Sebastian Lehnhoff, Edmund Handschin, Olav Krause, WF-004634, Volume 2, Page 905

Incentive-oriented market platforms to increase total efficiency of electricity systems  
Karl Derler, Ewald Traxler, WF-004022, Volume 2, Page 913

Integration of Power Plant information system with Business information system in the open electricity market: challenges and solutions  
Tuan Dang, WF-003913, Volume 2, Page 1209

A Methodology for Multidisciplinary Modeling of Industrial Control Systems using UML  
Elisabet Estevez, Marga Marcos, Isabel Sarachaga, Dario Orive, WF-006327, Volume 1, Page 171

An IEC 61499 Based Approach for Distributed Batch Process Control  
Kleanthis Thramboulidis, Seppo Sierla, Nikolaos Papakonstantinou, Kari Koskinen, WF-003077, Volume 1, Page 177

Management of Replicated IEC 61499 Applications  
Mario de Sousa, Adriano Santos, WF-006602, Volume 1, Page 231

Using the CIP Protocol with IEC 61499 Communication Function Blocks  
Frans Weehuizen, Alois Zoitl, WF-003697, Volume 1, Page 261
Image Processing and Neuro-Fuzzy Computing for Cork Quality Classification  
Beatriz Paniagua-Paniagua, Miguel Ángel Vega-Rodríguez, Juan Manuel Sánchez-Pérez, Juan Antonio Gómez-Pulido, WF-005894, Volume 2, Page 657

Perception of Pseudo-Stereoscopic Image Depths of Three-Dimensional Objects Displayed on VDT Screen  
Tetsuya Muraoka, Hiroaki Ikeda, WF-000213, Volume 2, Page 681

Route Selection for Vehicle Navigation and Control  
Grantham Pang, Ming Hei Chu, WF-001171, Volume 2, Page 693

Vision for Cognitive Systems: A New Compound Concept Connecting Natural Scenes with Cognitive Models  
Peter Goebel, Markus Vincze, WF-005029, Volume 2, Page 705

Automated measurement-based Device Traffic Modeling in Control Networks  
Joern Ploennigs, Mario Gürtler, Mario Neugebauer, Klaus Kabitzsch, WF-004766, Volume 1, Page 27

Deadband Sampling in PID Control  
Volodymyr Vasyutynskyy, Klaus Kabitzsch, WF-005916, Volume 1, Page 45

Petri net based Building Automation and Monitoring System  
Luis Gomes, Aniko Costa, Joao Paulo Barros, Rui Pais, Tiago Rodrigues, Richard Ferreira, WF-007676, Volume 1, Page 57

Vertical Integration in Building Automation Systems  
Stefan Soucek, Dietmar Loy, WF-007374, Volume 1, Page 81
Web Services in Building Automation: Mapping KNX to oBIX
Matthias Neugschwandtner, Georg Neugschwandtner, Wolfgang Kastner, WF-006947, Volume 1, Page 87

T09-1 SOA PLATFORMS
SERVICE-ORIENTED ARCHITECTURE
ROOM 4.2

Automated SOC development for the power distribution industry
Cristina Marin, Philippe Lalanda, WF-004472, Volume 2, Page 719

Platform-Based Design for Clinical Information Systems
Jan Werner, Janos Mathe, Sean Duncavage, Brad Malin, Akos Ledeczi, Jim Jirjis, Janos Sztipanovits, WF-006556, Volume 2, Page 749

Service Discovery in Industrial Agent Systems
Omar López, Jose Lastra, WF-006645, Volume 2, Page 761

The Challenge of Evolving Existing Systems to Service-Oriented Architectures
John Hutchinson, Gerald Kotonya, James Walkerdine, Peter Sawyer, Glen Dobson, Victor Onditi, WF-006041, Volume 2, Page 773

XML-based monitoring and operating for Web Services in automation
Annerose Braune, Stefan Hennig, Torsten Schaft, WF-006459, Volume 2, Page 797

15:20 - 15:30 Break

15:30 - 17:00 Panel Sessions

S08-1 E2050: CHALLENGES IN IT AND ENERGY
CHALLENGES IN IT AND ENERGY
ROOM 1.2
TUESDAY, 24/07/2007 15:30 - 17:00
DG DemoNet-Concept - A new algorithm for active distribution grid operation facilitating high DG penetration
Friederich Kupzog, Helfried Brunner, Wolfgang Prügler, Tomáž Pfajfar, Andreas Lugmaier, WF-005231, Volume 2, Page 1197

Economic Load Dispatch of Higher Order Cost Polynomials Using Modified Particle Swarm Optimization
Ahmed Yousuf Saber, Atsushi Yona, Masatake Higashi, WF-002569, Volume 2, Page 1203

Intelligent Metering
Horst Lunzer, WF-007439, Volume 2, Page 1215

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Andreas Urschitz, Erich Prem, Jörg Malzon-Jessen, Timothy Maloney, WF-004057, Volume 2, Page 1221

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Pierantonio Ragazzini, Industria Macchine Automatiche

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End-to-End Delays of Event-Triggered Overlay Networks in a Time-Triggered Architecture
Roman Obermaisser, WF-002194, Volume 1, Page 541

Real-Time Communication for Smart Sensor Networks: A CAN Based Solution
António Julio Pires, Erico Meneses Leão, João Paulo Sousa, Luiz Affonso Guedes, Francisco Vasques, WF-005819, Volume 1, Page 553

Stochastic network calculus for end-to-end delays distribution evaluation on an avionics switched Ethernet
Frédéric Ridouard, Jean-Luc Scharbarg, Christian Fraboul, WF-006408, Volume 1, Page 559

A Generic Approach for the Simulation of Distributed Control Systems using J2EE Technology
Uwe Schmidtmann, Thorsten Garrels, Hendrik Juergens, Gerd von Coelln, WF-004855, Volume 2, Page 805

Field Overlay Architecture for Manufacturing Systems
Takeshi Ohno, Akira Kataoka, Akira Noguchi, WF-003808, Volume 2, Page 847

Optimizing Distributed Foundation Fieldbus Process Control with MSP.RTL Tool
Jianping Song, Al Mok, Deji Chen, Mark Nixon, WF-006823, Volume 2, Page 867

Secure Plug and Play Architecture for Field Devices
Nobuo Okabe, Shoichi Sakane, Atsushi Inoue, Hiroshi Esaki, WF-001562, Volume 2, Page 873

15:50 - 16:00 Break

16:00 - 16:20 Closing
Friday, 27th of July – Industrial Day

The first IEEE INDIN Industrial Day is a forum for technology experts, researchers and industrial managers to discuss today’s and tomorrow’s challenges in academic/industrial cooperation. The motto of this industrial day is "the future of manufacturing".

We ask for your understanding that due to the high number of registrations the Industrial Day is only open to those delegates that have registered to the event in advance via the INDIN website.

Agenda

08.30 am Transfers from Tech Gate Vienna to Siemensstrasse
09.00 am Welcome address
   Wolfgang Morrenth, Head of Siemens Austria Automation & Drives (A&D)
   Friedrich Pressl, Head of Siemens Industrial Manufacturing, Engineering and Applications (SIMEA)
09.05 am "Megatrends Industry – How Siemens tackles the challenges"
   Wolfgang Morrenth
09.20 am "Trendsetting automation for the entire value chain"
   Steffen Weber, Siemens A&D HQ - Digital Engineering
09:40 am Coffee Break
10:15 am “Automation versus human resources – finding the right balance in operations”
   Johannes Renner, Head of Manufacturing A&D Austria
10.45 am Visit of the Siemens Austria manufacturing site: 2 Slots parallel
   1. Slot: Economic inverter production
   2. Slot: DC-converters: minimizing engineering costs
12.15 am Lunch
1.15 pm “ICT Project Portfolio – Micro/Nano-Systems, Embedded Systems and Future & Emerging Technologies”
   Mrs. Gordana Popovic, European Committee
1.45 pm “Smart Assembly Project”
   Allan Martel, COO O3neida
2.15 pm Coffee break
2.30 pm Interactive Podium Panel Discussion on:
   “Roles of Industrial Informatics in the future manufacturing facilities and in a new world populated by ambient aware and pro-active products”
4 pm Conclusions – Wrap Up of Discussions
   Antonio Valentini, CEO O3neida
4.15 pm Closing
   Wolfgang Morrenth
4.30 pm Shuttle from Siemensstrasse to Tech Gate Vienna
Social Program

– The INDIN 2007 social events are sponsored by SIEMENS –

Welcome Reception

Ride with a historic tramway to a typical Viennese "Heurigen" (Winery) and get a taste of local cuisine.

Date, Time & Dress code

The welcome reception will be held on Monday, 22nd of July. Dress code: smart casual.

18:30  Meeting "Otto Wagner Pavillon" Karlsplatz
18:45  Historic Tramway Departure
19:30  Heuriger (Bach-Hengl, Sandgasse 7–9, A-1196 Wien-Grinzing)
22:30  Bus transfer back to Karlsplatz

Arrival

The meeting point for the Welcome Reception is at the "Otto Wagner Pavillon" at Karlsplatz. You can reach this by underground:

Arrival by U1: Use exit "U2/U4" at the END of the Station. Then follow green signs "U4". On the U4 platform, use exit "Resselpark"

Arrival by U2: Use exit "Akademiestraße", then go in direction "Resselpark"

Arrival by U4: Use exit "Resselpark"

From the "Resselpark" exit you will be guided to the historic tramway.
Conference Banquet at “Palais Niederösterreich”

Date, Time & Dress code

Wednesday 25th of July, 18:30 – 24:00
Dress code: formal

Venue

Altes Landhaus
Herrengasse 13
1010 Vienna

URL: http://www.palais-niederoesterreich.at

Arrival

Use the underground line U3 and drive to the station “Herrengasse”. For more details please refer to the map:
Industrial Day Dinner – Dine in “Palmenhaus”

The Industrial Day Dinner is open to those delegates that have registered to the Industrial Day via the INDIN website.

Date, Time & Dress code

Thursday 26th of July, 18:30 – 24:00
Dress code: casual

Venue

Burggarten
1010 Vienna
URL: http://www.palmenhaus.at

Arrival

Use the underground line U1, U2 or tram 1,2,D or J to the stop ‘Oper’. For the short walk to the “Palmenhaus” please consider the following map:
Q&A

General help – where can I get that?

Please refer to the INDIN Registration Desk in the entrance area for any general requests.

Helpline Telephone – can I call anyone?

In case you got completely lost or missed one of our shuttle services, you can call the INDIN phone +43 681 104 38 403. Please read this program carefully before calling us to ensure that the information you need is not included in this document.

Internet – how can I access it?

There will be free wireless Internet access available for you at the venue. Please connect to the open WLAN with SSID “TGV x.x”, where x can vary depending on room and floor.

Organisers – how do I identify them?

The organisers wear red badges. You can always address your inquiries to them.

Presentation – when and in what format shall I provide it?

Panel presentations are to be done via PPT or PDF presentations with maximum 20 minutes of time (including questions). Laptop computers and digital projectors for presentation are available; bring your files on a USB thumb drive or CD. Please come forward to the session organisers in the break/coffee break before your session for copying your files on the presentation computer.

Please note that we do not guarantee that video clips included in your presentations will actually work.

Tickets – how do I get access to the INDIN events?

Your badge serves as ticket for all INDIN technical and social events. The badge clearly states all events you have admission to. If you have not been registered for an event you would like to take part, please come to the INDIN registration desk.
**INDIN Help Desk**

The INDIN organising team offers you the mobile INDIN Help Desk, which you can call for organisational issues and requests during the conference.

**+43 681 104 38 403**

*Please read this program carefully before calling us in order to avoid unnecessary questions.*

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**Track Overview**

T01 Buildings, Networks and Automation  
T02 Security and Safety  
T03 Factory Automation  
T04 Applications of Industrial Informatics  
T05 Robotics and Autonomous Systems  
T06 Infrastructure and Technology  
T07 E-Applications  
T08 Cognitive Science in Industrial Informatics  
T09 Service-Oriented Architecture  
T10 Embedded and Networked Control in Collaborative Manufacturing  
S01 IT and Energy  
S02 IT in Manufacturing  
S03 Dependable Embedded Systems  
S04 Cognitive Automation  
S05 Agents Theory and Practice for Industry  
S06 Downtimeless Reconfiguration  
S07 Execution semantics of IEC 61499 Function Block Applications  
S08 Challenges in IT and Energy