



DOME 4.0

Industrial Engagement Open Day

Agenda

V1.9

Date: 17 January 2023

Time: 09:00 – 16:30 (CET)

Place: Hybrid – (Bologna, Italy- Online)

Venue: *Bi-Rex*

Via Paolo Nanni Costa 20, 40133 Bologna

Italia

Registration: [Link to registration form](#)

www.dome40.eu

In partnership with:



www.simdome.eu



The DOME Project is supported by the European Union under the HORIZON2020 Framework Programme 953163
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Industrial Engagement Open Day – Introduction

DOME 4.0 Industrial Engagement Open Day is co-organised in partnership with the SimDOME Project. This event will give an opportunity to learn about standard data handling and data management practices in industrial organisations and understand how to develop compatibility between proposed data management solutions with already existing data management practices in the industry as well as the novel Business Models. The aim is to actively engage industrial partners and established corporate networks within and outside of the consortium in supporting further development of proposed solutions by providing ideas, guidance, technical recommendations and exploitation optimal strategies to ensure future compatibility with data management handling and practices within different organisations.

The Industrial Engagement Open Day will identify gaps that the industry has in the field of data handling and data management practices and use them as an input for the Hackathon. **DOME 4.0 two days Hackathon on 18th and 19th January 2023 will follow the Industrial Engagement Open Day** and it will provide an important pathway to increasing the scalability of the DOME 4.0 ecosystem and focus on rapid development aimed at solving problems and proposing new solutions via demonstration.

The participation to the Industry Engagement Open Day and Hackathon is free.

To register to the Industry Engagement Open Day and Hackathon please [use this form](#).

For more information about the events and the DOME 4.0 project, please visit the [DOME 4.0 website](#).

Industrial Engagement Open Day - Organisers:

DOME 4.0 Project



DOME 4.0 is a 4-year Research and Innovation Action (RIA) from 2020 to 2024 funded under Horizon 2020 focusing on developing a comprehensive industrial data ecosystem aligned with the Open Science and Open Innovation objectives to enable sharing of business-to-business (B2B) data for the purpose of value generation and creation of new or enhanced products, processes, and services. DOME 4.0 will be open to all providers and users of data, and aims to facilitate maximum knowledge extraction with the help of ontology-driven semantic data interoperability and modern data processing technologies adopted from the fields of Machine Learning (ML) and Artificial Intelligence (AI). These features are crucial to scale and advance the proposed ecosystem to any sector of the economy. Given the significant contribution of the materials and manufacturing sectors to the European economy, DOME 4.0 focuses on data-driven knowledge generation within these key sectors.

The DOME 4.0 Consortium is formed by 12 partners, coming from leading industrial and academia sectors, these are: Computational Modelling Cambridge, Fraunhofer, Netcompany-Intrasoft, Università di Bologna, EFPL, UK Research and Innovation, Siemens, ROBERT BOSCH, Uniresearch, Sintef, Cambridge Nanomaterials Technology, and University College London.

More information on the project can be found at: <https://dome40.eu/overview>

SimDOME Project

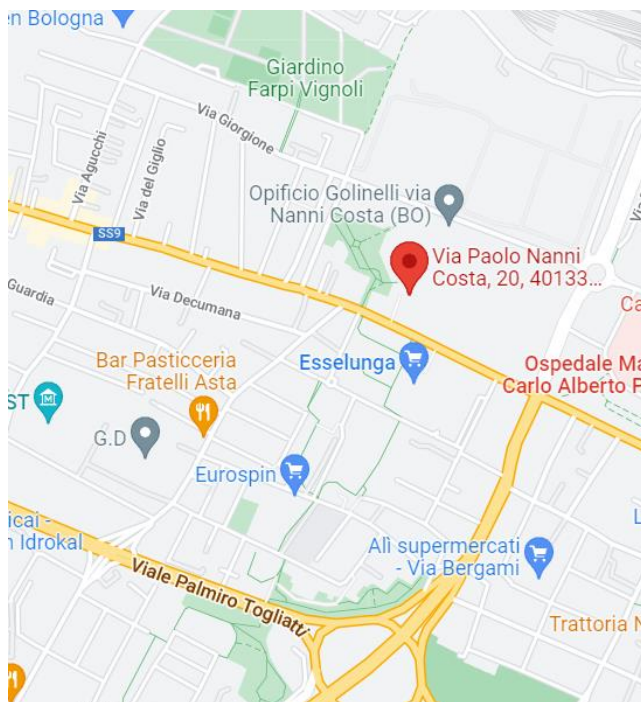


SimDOME aims to develop an industry-ready software framework for materials modelling interoperability, based on EU/EMMC standards on materials modelling, by combining, further developing and adapting existing software developed within previous EU FP7-NMP projects SimPhoNy and MoDeNa, the H2020-NMBP project NanoDome and the FP7 ERC-AdG STRATUS.

SimDOME achieves the highest level of interoperability through the standardisation of the material user-cases (i.e. the material/process to be simulated, according to EMMC definitions) that are provided within the SimDOME framework by means of the European Materials Modelling Ontology (EMMO). User case standardisation will allow data communications between software by translating the concept of each specific implementation to the standard unified concepts and interfaces provided by the ontology.

More information on the project can be found at www.simdome.eu

Industrial Engagement Open Day - Venue:



Bi-Rex

Via Paolo Nanni Costa 20,
40133 Bologna
Italia



BI-REX

National Competence Centre on Big Data and Applied-AI for Manufacturing

Web: www.bi-rex.it/en

BI-REX is one of the 8 Italian Competence Centers funded by the Italian Ministry of the Economic Development within the Industry 4.0 National Plan and our main focus is on Big Data.

Our public-private Consortium, born in 2018, has its headquarter in Bologna (Italy) and gathers in partnership 60 players among Universities, Research Centers and Companies of excellence in order to assist businesses, in particular SMEs, through a varied series of services: from consultancy to technology assessment, from design to validation of innovative solutions, from orientation to training, up to the Pilot Plant.

Our Consortium is configured as a highly specialized Competence Center, constituted according to the modalities established by Italian Ministry of Economic Development in conjunction with Italian Ministry of Economy and Finance.

Industrial Engagement Open Day – Agenda

- 09:00** *Venue Open to Participants (online participants to join)*
- 09:15** Welcome to the Industrial Engagement Open Day
DOME 4.0, SimDOME and Bi-Rex Team
- 09:30** **Danilo Mascolo**, Head of Innovation and Business Development, BI-Rex, Italy
Title: A Competence Centre for Industry 4.0
- 10:00** **Amit Bhave**, CEO & Co-Founder, CMCL Innovations, UK
Title: DOME 4.0 – an overview and update on the data sharing ecosystem and B2B showcases
- 10:30** **Samir Sid**, Process Simulation Scientist, Umicore, Belgium
Andrea Querio, Researcher, Politcnico di Torino, Italy
Title: How SimDOME helps support battery material development
- 11:00** *Coffee break*
- 11:15** **Evgeny Kharlamov**, Senior Expert, Bosch Center for Artificial Intelligence (BCAI), Germany
Title: Smart Manufacturing
- 11:45** **Fabrizio Preda**, CEO, NIREOS, Italy
Amit Bhave, CEO & Co-Founder, CMCL Innovations, UK
Title: Open Simulation Platform use cases from NIREOS and CMCL
- 12:15** **Ennio Capria**, Deputy Head of Business Development, European Synchrotron (ESRF), France
Title: Large Scale Research Infrastructures: extending your characterisation toolbox with cutting edge unique methodologies
- 12:45** Tour of Bi-Rex facilities
- 13:00** *Lunch & Exhibition by the following SMEs/Start-ups*

- Energy Group (www.energygroup.it)
- Data River: (www.datariver.it)
- Nextema: (www.nextema.com)
- Caboto
- Astreo: (www.astreotech.com)
- Nireos: (www.nireos.com)

14:30 Laszlo Farkas, Siemens PLM Software- (SISW). Belgium

Title: Digital Thread Approach to Materials

15:00 Round table discussion

Moderator: **Bojan Boskovic**, CEO, Cambridge Nanomaterials Technology Ltd, UK

15:45 Conclusion

16:00 *Networking and Wrap-up*

Note It is planned that all presentations would be followed by Q&A discussion. The organisers reserve the right to change the programme or speakers should circumstances require.

Industrial Engagement Open Day – Speakers



Dr Amit Bhave
CEO & Co-Founder
CMCL Innovations
Sheraton House
Castle Park, Castle Street
Cambridge, CB3 0AX,
United Kingdom

Dr Amit Bhave is the CEO and co-founder of CMCL Innovations, an award-winning company offering digital engineering solutions to the automotive, chemicals/materials, and energy industries. His main responsibilities include software and services business development, and for over a decade, he has also been responsible for fostering R&D partnerships with industry and research organisations worldwide.

Amit is the Coordinator for DOME 4.0 and has led numerous projects in areas ranging from low-emission vehicles, nanomaterials production, and carbon-negative energy processes.

He is a Chemical Engineer by profession (PhD, University of Cambridge) and trained in technology enterprise management (London Business School). He is also an Associate at Hughes Hall, and has over 40 peer-reviewed technical publications.



Ing Danilo Mascolo, MBA
Head of Innovation and Business Development
Bi-Rex - *National Competence Centre on Big Data and Applied-AI for Manufacturing*
Bologna, Emilia-Romagna,
Italy

Ing Danilo Mascolo, MBA started his career as researcher in the University Federico II, where he graduated summa cum laude in Electronic Engineering and Information Theory. In June 2002, He joined STMicroelectronics as R&D Manager and PM of emerging technologies with application in Flexible Electronics, Energy Harvesting, Si-Optics, Embedded Computing & AI. As principal investigator, He drove Molecular and Carbon-based Electronics in US, UE and Singapore, where he contributed to start operations of a new R&D Centre. In July 2009, he moved in Confindustria Emilia-Romagna, the Federation of Industry Associations as CIO deploying innovation and strategic management counselling services to the Associate Companies Network. Today He is the head of Innovation and business development in BI-REX the national competence center on Big Data and Applied-AI for Manufacturing. During his activities, he wrote several papers and chapters to books, filled 65 patents and PCT and was listed top-10 inventors on nanotech 2006-2009 in EPO.



Dr Samir Sid
 Process Simulation Scientist
Umicore
 Group Research & Development Watertorenstraat 33
 B-2250 Olen,
 Belgium

Dr Samir Sid is an aerospace engineer and a scientist passionate by fluid dynamics and computational sciences in the broader sense. After graduating from the University of Liège in 2012, he conducted a PhD thesis on the fundamental dynamics of turbulent flows in the Multi-Physics & Turbulent Flows Computation (MTFC) research group led by Prof. Terrapon (ULiege). A few years later, he joined Umicore, a global company leader in clean mobility materials and recycling, where he is currently in charge of a portfolio of research projects dedicated to process and product development. As R&D Scientist, he leverages his expertise in fluid dynamics and computational physics to coordinate the development of dedicated simulation models in order to provide key insights into various production processes to operational teams.

Andrea Querio
 Researcher
Politecnico di Torino
 Italy

Andrea Querio, is a Researcher at the Department of Applied Science and Technology, of the Politecnico di Torino.



Dr Evgeny Kharlamov
 Senior Expert
Bosch Center for Artificial Intelligence (BCAI)
 Renningen, Baden-Württemberg,
 Germany

Dr Evgeny Kharlamov is a Senior Expert in “AI methods for Semantic Digital Twins and Knowledge Graphs” at the Bosch Center for Artificial Intelligence and an Associate Professor at the University of Oslo. He was previously a Senior Research Fellow at the University of Oxford, a visiting researcher at the University of Edinburgh, and a researcher at the University of Bolzano and INRIA Saclay.

Evgeny does AI-centered research that aims at sustainable, circular, and smart manufacturing / Industry 4.0 and centered around topics of standardised, intelligent and data-driven production value-chain empowered with digital twins and IoT. His research in particular accounts for Semantic Technologies, ontologies, knowledge graphs for symbolic representation and reasoning over manufacturing knowledge, for machine learning for processing of production data, and for their combinations in Neural-Symbolic AI methods. Evgeny’s work led to 150+ publications including top tier venues such as NeurIPS, JIM, TODS, PVLDB, SIGMOD, IJCAI, AAAI, CIKM, and ISWC. His citation count at Google Scholar is about 3K. He won several prestigious awards including the best research and industrial applications papers at ESWC’20, ISWC’17, best demo at ISWC’15, and he is ranked as 18th among “AI 2000 Knowledge Engineering Most Influential Scholars” by AMiner.

Evgeny raised or participated in raising of about 3M EUR of research funding. He was in charge of several industrial collaborations of the University of Oxford and was in charge of or participated in several EU projects at the University of Oxford and Bosch (FP7, H2020) and of EPSRC and Royal Society projects at the University of Oxford.



Fabrizio Preda
CEO
NIREOS
Milan, Lombardy,
Italy

Fabrizio Preda is the CEO & Founder of NIREOS. He has a degree from the Politecnico di Milano, in Master of Science - MS - Engineering Physics. He founded NIREOS in 2018.



Dr Ennio Tito Capria
Deputy Head of Business Development
European Synchrotron (ESRF),
France

Dr Ennio Tito Capria is the Deputy Head of Business Development at the ESRF. In his research career he worked on the development of electrochemical nanobiosensors, nanocomposites and optoelectronic devices and particularly their characterisation with synchrotron light. At the ESRF, he is coordinating the participation of the ESRF in various collaborative initiative with industry, in particular on energy storage applications, additive manufacturing methods and nano-sciences. Since 2020 Ennio is Director of the Characterisation programme of the Technological Research Institute Nanoelec.



Dr Laszlo Farkas
Siemens PLM Software (SISW)
Katholieke Universiteit Leuven
Leuven, Flemish Region,
Belgium

Dr Laszlo Farkas is a Senior R&D Manager at Siemens PLM Software for over 7 years. He has worked in Siemens since 2003. He got his PhD degree in Engineering from K.U.Leuven.



Dr Bojan Boskovic
CEO,
Cambridge Nanomaterials Technology
14 Orchard Way
Lower Cambourne
Cambridge CB23 5BN - UK

Dr Bojan Boskovic is the Founder, Managing Director, and Principal Consultant of the company. He has more than 20 years of hands-on experience with carbon nanomaterials and composites from industry and academia in the UK and Europe. Previously, he worked as a R&D Manager at Nanocyl, one of leading carbon nanotube manufacturing companies in Europe. He also worked on carbon nanotube synthesis and applications as a Principal Engineer-Carbon Scientist at Meggitt Aircraft Braking Systems, as a Research Associate at the University of Cambridge, and as a Senior Specialist at Morgan Advanced Materials. During his PhD studies at the University of Surrey he invented low temperature synthesis method for production of carbon nanomaterials that has been used as a foundation patent for the start-up company Surrey Nanosystems. He was a member of the Steering and Review Group for the Mini-IGT in Nanotechnology that advised the UK Government on the first nanotechnology strategy policy document. Dr Boskovic was working as an advisor for the European Commission (EC) on Engineering and Upscaling Clustering and on setting up of the European Pilot Production Network (EPPN) and European Materials Characterisation Cluster (EMCC). He has experience in exploitation and dissemination management on a number of FP7 and H2020 European projects, including UltraWire, NanoLeap, OYSTER, M3DLoC, Genesis, nTRACK, nanoMECommons, APOLO, Triangle, Carbo4Power, Repair3D, AM4BAT and DOME 4.0. Also, in UK Government InnovateUK funded projects, such as UltraMAT, GRAPHOSITE and HiBARFilm. He is also a leader of two private membership-based consortiums: Nano-Carbon Enhanced Materials (NCEM) and Advanced Materials for Additive Manufacturing (AMAM).