ROAMing

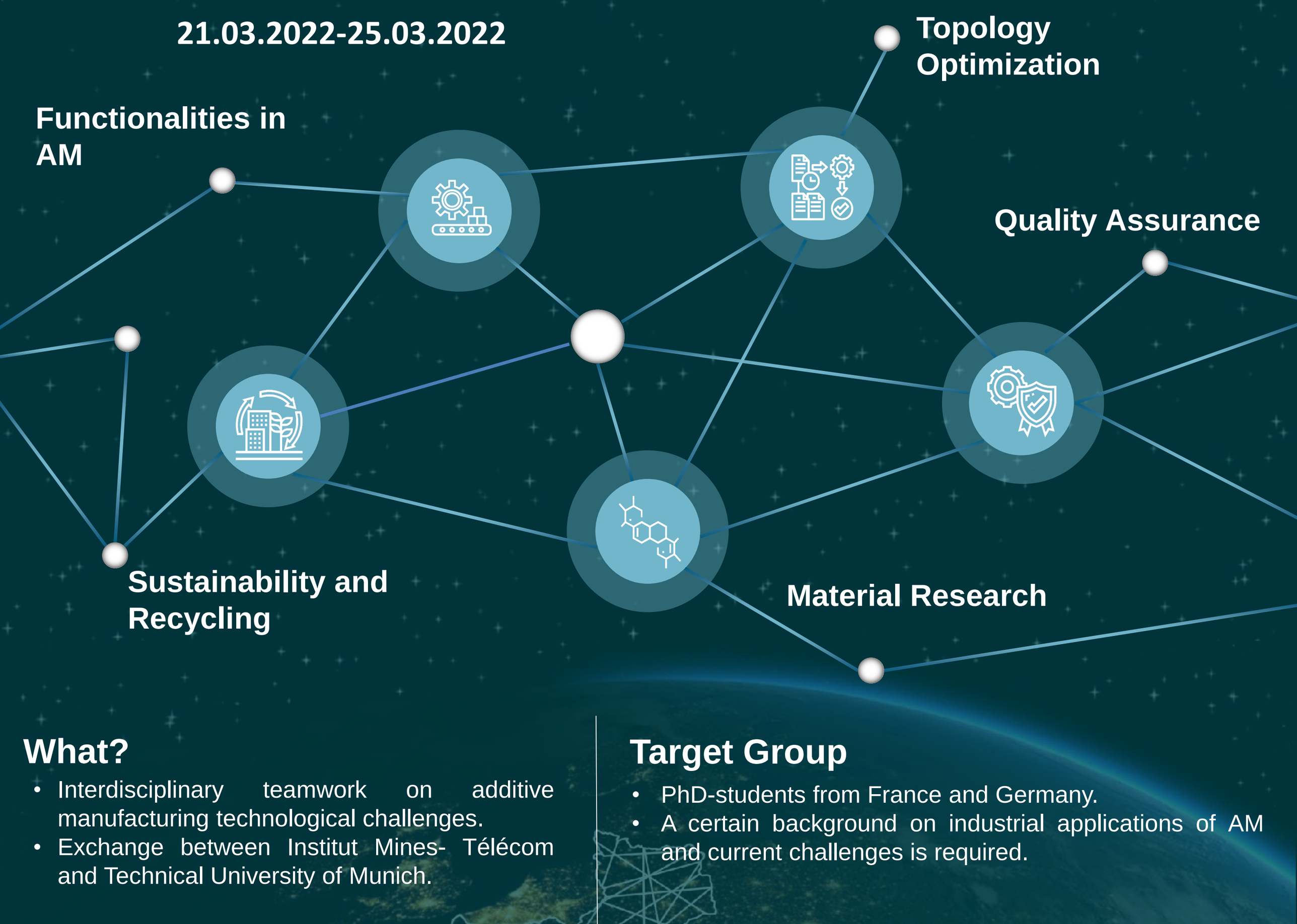
Institut Mines-Télécom

Technical University of Munich

german-french academy for the industry of the future
founded by IMT and TUM

A Roadmap for Industrializing Additive Manufacturing

21.03.2022-25.03.2022



What?

- Interdisciplinary teamwork on additive manufacturing technological challenges.
- Exchange between Institut Mines- Télécom and Technical University of Munich.

How?

- Events will be hosted hybrid - on-site and online.
- All presentations will be streamed live
- Ph.D. students will have the opportunity to participate in the Hackathons either on-site or online.

Where?

- Auditorium in IAS (EG)
- Garching Campus TUM
- MINES Paris PSL CEMEF CNRS 7635
- IMT Albi Campus

Target Group

- PhD-students from France and Germany.
- A certain background on industrial applications of AM and current challenges is required.

Prize

Winners of the initiative are invited to stay for a couple of days in France or in Germany to participate in research and cultural life (e.g. visits in the research labs and city-tours).

Contact

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Program

	Monday 21.03.2022	Tuesday 22.03.2022	Wednesday 23.03.2022	Thursday 24.03.2022	Friday 25.03.2022
Focus	Materials in AM	Quality Assurance in AM	Topology Optimization	Materials in AM	Functionalities in AM
Host	TUM MAT	TUM LBAM	TUM IWB	IMT Albi- Carmaux	IMT Mines ParisTech
08:50	Setup/Start				
09:00 – 10:00	**Greeting** **Prof. Dr. techn. Peter Mayr** **Elevator Pitch** What is my research about?	**Prof. Dr.-Ing. Katrin Wudy** Monitoring in AM with Plastics	**Christian Fritz** Introduction to topology optimization 1	**09:00 – 09:30** **Pr. Thierry Cutard & Pr. Jean-Jacques Favier** AM in Space and on the Moon **09:30 – 10:00** **Pr. Christine Boher** Influence of the microstructure of SLM Co-based coatings on mechanical behaviours	**09:15 – 10:15** **Guest lecture – Bretagne Sud University** Biomimicry and 4D printing for innovative composite materials
10:15 – 11:15	**Graham Matheson (Oerlikon)** Amending High Strength Aluminium Alloys for AM via Microstructural Control	**Jonas Grünewald** Monitoring in AM with Metals	**Thomas Mair** Introduction to topology optimization 2	**10:15 – 11:05** **Guest lecture – MINES Paris PSL** Modeling & simulation process applied or metal alloys	**10:15 – 11:00** **Guest lecture - SAFRAN & ARIANE Group** FA en space aero/nautical
11:30 - 12:30	**Natan Nudelis (FIT AG)** Pore type classification of additive manufactured AlSi10Mg components using X-Ray data	**Guest lecture Trumpf**	**Stefanus Stahl (BMW)** Topology optimization	**11:00 – 12:00** **Frank Palm (Airbus)** Guest lecture on Scalmalloy **12:00 – 12:300** **Dr. Emmanuel Nigito** Impact of the SLM process on the metallurgy and superelastic properties of NiTi	**11:00 – 11:45** **Guest lecture – VISHAY Group** How 3D printing can offer new opportunities in functional structure **11:45 – 12:15** **Guest lecture – IMT Albi** General information about 3D printing of drugs
12:30 – 13:30	**Lunch break**				
13:30 – 14:30	**Guest Lecture** **Dr. sc. Xiaoshuang Li (Aerosint)**	**Challenge on How to design parts for qualification of AM processes and materials**	**Challenge on Topology Optimization**	**Dr. E. Copin** Introduction to bibliometrics	**Guest lecture – South-East SF2M/EC Lyon** AM in French Society Communities
14:30 – 17:00	**Challenge** **Recycling in AM**			**Challenge** **Current state of the art and future trends for materials in AM**	**Challenge** **How to make nD in AM & combine multi-materials functionalities**

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