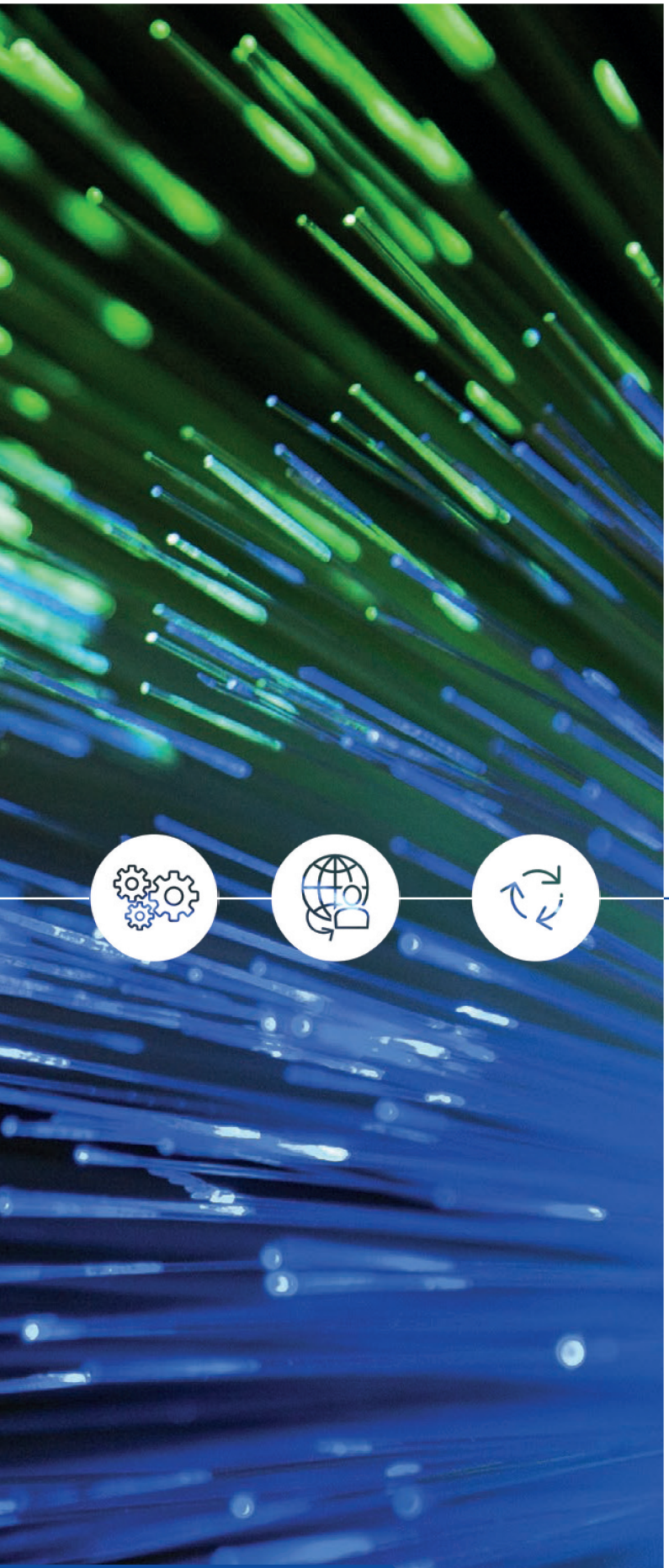

DOCTORAL School

EIT Manufacturing Doctoral School

Summer School on Green Manufacturing

27 June - 13 July 2022
Prague, Bratislava

CTU CZECH TECHNICAL UNIVERSITY IN PRAGUE

STU SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA

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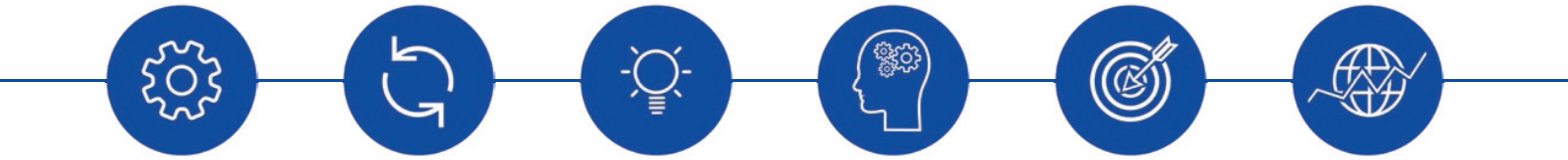
SUMMER School



DOCTORAL School

Entry Requirements

STUDY LOCATION:
Prague, Czech Republic (27 June - 4 July)
Bratislava, Slovakia (5 -13 July)

ENTRY QUALIFICATION:
A Master of Science Degree or enrollment in PhD study is required
(The entry qualification documents are accepted in English only)

LANGUAGE REQUIREMENTS:
English, you must be able to write, understand and speak in English

OTHER REQUIREMENTS:
To apply to the DSGM Summer School, you are required to upload the following documents:

- Academic qualification certificate (bachelor of science degree)
- Curriculum Vitae including details on your academic and professional career using preferably the Europass format (https://europa.eu/europass/en/create-europass-cv)
- PhD topic description
- A colour copy of National ID (only for EU/EFTA students) or passport

PLEASE NOTE:

Applications that do not include all documents will not be processed.
Applications with fraudulent documents will be rejected.

DOCTORAL School

Summer School Overview & Program Structure

The EITM Doctoral Summer School on Green Manufacturing (DSGM) offers a unique opportunity for **developing innovation and entrepreneurship skills** for the manufacturing world in an **international setting.** Participants are immersed in a stimulating learning-by-doing experience during which they will discuss their research results in the Summer Symposium. International lecturers provide state-of-the-art knowledge, and entrepreneurship experts will guide you along a Design Research Bootcamp to develop innovative business ideas. Last but not least you will be challenged to **solve real industrial problems.**

The EITM DSGM will be an opportunity for doctoral students and professionals alike to broaden their network with potential European partners and to boost their abilities and competencies to become entrepreneurs able to empower the sustainable manufacturing of the future.

The students' assessment is based on evaluation of the final pitch, by individuals or teams, in front of a jury on the last day of school. The pitch demonstrates the results of business ideas that students have worked on, with collaboration from mentors.

During the 2 week-period the summer school schedule will alternate different types of learning experiences, such as innovation & entrepreneurship activities, technical presentations on novel technologies in green manufacturing, business industrial challenges, company visits and a social programme. The presented data will be available during the event for later use of the participants.

Main innovation topics covered during the summer school are:

- Greening of machining operations
- Green manufacturing with laser-based processes
- Process virtualization, green factory virtual planning
- Role of industrial communication and MES in green production
- Advances in robotics for green manufacturing
- Advances in machine tools for green manufacturing
- Digitization of production and logistics – cost optimization
- Energy efficiency

Company visits* are organized in:

- Compo Tech PLUS – Czech producer of composite parts
- Hofmeister – tools and gauges for metal-working
- Stellantis – automotive manufacturer

**(transportation from the summer school location to the visiting sites is organized by the summer school organization and the transport price is included in the summer school fee).*

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DOCTORAL School

Summer School Program Overview
Week #1

Prague, Czech Republic | 27 June - 4 July 2022

	Monday 27/06	Tuesday 28/06	Wednesday 29/06	Thursday 30/06
Morning 09:00 - 13:00	Opening Summer School	Summer Symposium	Company visits: Compo Tech PLUS HOFMEISTER	Design Research Bootcamp
Lunch 13:00 - 14:30	Networking Lunch			Networking Lunch
Afternoon 14:30 - 18:00	Scientific Cutting-Edge Research Methods			Design Research Bootcamp
Evening 19:00 - 22:00	ICE-breaking dinner			**Gala Dinner**

	Friday 01/07	Saturday 02/07	Sunday 03/07	Monday 04/07
Morning 09:00 - 13:00	Design Research Boothcamp			Design Research Bootcamp
Lunch 13:00 - 14:30	Networking Lunch			Networking Lunch
Afternoon 14:30 - 18:00	Seminar - Robotic & Automation			Seminar - Advances in Machine Tools

DOCTORAL School

Summer School Program Overview Week #2

Bratislava, Slovakia | 5 - 13 July 2022

	Tuesday 05/07	Wednesday 06/07	Thursday 07/07	Friday 08/07
Morning 09:00 - 13:00	Travel to Bratislava	Design Research Bootcamp	Design Research Bootcamp	Design Research Bootcamp
Lunch 13:00 - 14:30		Networking Lunch	Networking Lunch	Networking Lunch
Afternoon 14:30 - 18:00		Seminar on Energy Efficiency at Learning Factory I4.0	Company visit: STELLANTIS	Seminar on Digitization of production and logistics by SOVA Digital (company) at National Centre of Robotics
Evening 19:00 - 22:00	Welcome dinner BA			

	Saturday 09/07	Sunday 10/07	Monday 11/07	Tuesday 12/07	Wednesday13/07
Morning 09:00 - 13:00			Hackathon	Hackathon	Pitch Rounds
Lunch 13:00 - 14:30			Networking Lunch	Networking Lunch	Lead INN Wien
Afternoon 14:30 - 18:00				Present Validation Results	Closure Summer School / VP cocktail
Evening 19:00 - 22:00				**Gala Dinner**	

DOCTORAL School

Summer School Detailed Program Week #1

Prague, Czech Republic | 27 June - 4 July 2022

	Monday 27/06	Tuesday 28/06
Morning 09:00 - 13:00	Opening Summer School	Summer Symposium
Lunch 13:00 - 14:30	Networking Lunch	
Afternoon 14:30 - 18:00	Scientific Cutting-Edge Research Methods	
Evening 19:00 - 22:00	Ice-breaking Dinner	

LOCATION:
Technická 4, 160 00, Praha 6 - Dejvice

PROGRAM:
Summer School opening and presentations of the Faculty of Mechanical Engineering departments, with topics:
- Quantitative Sustainability Evaluation in Manufacturing - Power of Life Cycle Assessment (LCA)
- Additive Manufacturing
- Physically interconnected robots enable new industrial applications of robots
- Compact infinite-order controllers for flexible mechanical systems and vibration suppression

Speakers: doc. Ing. Miroslav Španiel, CSc. (faculty dean), Ing. Miroslav Žilka, Ph.D., Ing. Libor Beránek, Ph.D., prof. Ing. Michael Valášek, DrSc., prof. Ing. Tomáš Vyhlídal, Ph.D.

LOCATION:
Technická 4, 160 00, Praha 6 - Dejvice

PROGRAM:
Presentations of scientific paper abstracts by the participants to a Scientific committee composed of R&D and innovation experts in various fields.

	Wednesday 29/06	Thursday 30/06
Morning 09:00 - 13:00	1st Company visit (06:30-11:00) Compo Tech PLUS	Design Research Bootcamp
Lunch 13:00 - 14:30	Lunch	Networking Lunch
Afternoon 14:30 - 18:00	2nd Company visit (14:00-17:00) HOFMEISTER	Design Research Bootcamp
Evening 19:00 - 22:00		**Gala Dinner**

PROGRAM:
06:30 departure from Prague to Sušice by bus
09:30 -11:00 visit in **Compo Tech PLUS** company, innovativative producer of composite beams
11:00 -11:30 bus transfer to restaurant in the Sušice city
11:30 -12:30 lunch
12:30 -14:00 bus transfer to Pilsen
14:00 -15:30 visit in **HOFMEISTER** company, innovativative producer of cutting tools
15:30 -17:00 return to Prague by bus

LOCATION:
Jugoslávských partyzánů 1580/3, 160 00, Praha 6 - Dejvice

PROGRAM:
Starting of the the Design Research bootcamp with 2 first sessions:
- Understanding Ecosystem
- Planning Design Research

Teacher: Sara Alonso

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DOCTORAL School

Summer School Detailed Program
Week #1

Prague, Czech Republic | 27 June - 4 July 2022

	Friday 01/07	Saturday 02/07
Morning 09:00 - 13:00	Design Research Bootcamp	
Lunch 13:00 - 14:30	Networking Lunch	
Afternoon 14:30 - 18:00	Seminar - Robotic & Automation	

LOCATION:
Jugoslávských partyzánů 1580/3, 160 00,
Praha 6 - Dejvice

PROGRAM:
Third session of Design research Bootcamp:
- Preparing interviews
Teacher: Sara Alonso

One Innovation seminar about Virtual commissioning of the robot and hands-on experiance in practical application.
Speaker: Ing. Jiří Švéda, Ph.D., Ing. Štěpán Chládek, Ph.D., ing. Michal Rytíř

PROGRAM:
Free time

	Sunday 03/07	Monday 04/07
Morning 09:00 - 13:00		Design Research Bootcamp
Lunch 13:00 - 14:30		Networking Lunch
Afternoon 14:30 - 18:00		Seminar - Advances in Machine Tools

PROGRAM:
Free time

LOCATION:
Horská 3, 128 00, Praha 2 – Albertov

PROGRAM:
Fourth part of the Design Research Bootcamp about survey and field research.
Teacher: Sara Alonso

Innovation seminars about advances in machines tools is organised in two parts.
Theoretical part consists of topics on Traditions of production machines in the Czech Republic, Technological foresight, Digital twins and Cutting issues.
Practical part contains guided tours of Digi-cell MCU700, Hybrid manufacturing, Energetic efficiency and Machine monitoring workplaces.
Speakres: doc. Ing. Petr Kolář, Ph.D., Ing. Matěj Sulitka, Ph.D., Ing. Petr Vavruška, Ph.D., Ing. Martin Mareš, Ph.D., Ing. Tomáš Kratěna, Ing. Vojtěch Votruba, ing. Josef Kekula, Ph.D., Ing. Štěpán Fiala, Ph.D.

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DOCTORAL School

Summer School Detailed Program Week #2

Bratislava, Slovakia | 5 - 13 July 2022

	Tuesday 05/07	Wednesday 06/07
Morning 09:00 - 13:00	Travel to Bratislava	Design Research Bootcamp
Lunch 13:00 - 14:30		Networking Lunch
Afternoon 14:30 - 18:00		Seminar on Energy Efficiency at Learning Factory I4.0
Evening 19:00 - 22:00	**Welcome dinner BA**	

LOCATION:
FIIT/SjF Ilkovičova 2/Mýtna 36

PROGRAM:
Fifth session of Design Research Bootcamp about gathering insights
Teacher: Sara Alonso

Presentations of the Faculty of Mechanical Engineering and Learning Factory I4.0 lab, with a focus on the topic of Energy efficiency.
Speakers: Ing. Martin Juhás, Ph.D., Ing. Martin Gulan, PhD.

	Thursday 07/07	Friday 08/07
Morning 09:00 - 13:00	Design Research Bootcamp	Design Research Bootcamp
Lunch 13:00 - 14:30	Networking Lunch (13:00-14:00)	Networking Lunch
Afternoon 14:30 - 18:00	Company visit STELLANTIS	Seminar on Digitization of production and logistics by SOVA Digital (company) at National Centre of Robotics

LOCATION:
FIIT/MTF Ilkovičova 2/Jána Bottu 24, Trnava

PROGRAM:
Sixth session of Design Research Bootcamp about gathering inisights.
Teacher: Sara Alonso

Company visit: **STELLANTIS** (automotive industry).
The novel trends in use of modern technologies focused on virtual reality and augmented reality in manufacturing systems and robotics.
14:00 leaving from FIIT by bus
15:00 visit in Stellantis
17:30 return to Bratislava by bus

LOCATION:
FIIT/FEI Ilkovičova 2/Ilkovičova 2961

PROGRAM:
Last session of Design Research Bootcamp about Defining the Challenge
Teacher: Sara Alonso

The seminar about Digitization of production and logisticsis is organized in 2 sessions.
Session 1: Presentation by SOVA Digital about digitalization of production and logistics according to current needs and problems of companies and focused on process improvement and cost optimization.
Session 2: Presentation of labs: National Centre of Robotics, Institute of Electronics and Photonics
Speakers: Ing. Milan Lokšík (SOVA Digital), prof. Ing. František Duchoň, Ph.D., doc. Ing. Mikulaš Bittera, Ph.D., Ing. Juraj Marek, Ph.D.

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Summer School Detailed Program Week #2

Bratislava, Slovakia | 5 - 13 July 2022

	Saturday 09/07	Sunday 10/07	Monday 11/07
Morning 09:00 - 13:00			Hackathon
Lunch 13:00 - 14:30			Lunch
Afternoon 14:30 - 18:00			Hackathon
	PROGRAM: Free time	**PROGRAM:** Free time	**LOCATION:** FEI Ilkovičova 2961 **PROGRAM:** Hackathon directed by EIT **Teacher:** Josè Santamaria

	Tuesday 12/07	Wednesday 13/07
Morning 09:00 - 13:00	Hackathon	Closing Ceremony (10:00-12:00) Lecture by Lead INN Wien
Lunch 13:00 - 14:30	Lunch	Closing SS/VP cocktail (12:00 - 15:00)
Afternoon 14:30 - 18:00	Hackathon + final Hackathon result presentation	
Evening 19:00 - 22:00	**Gala Dinner**	
	LOCATION: FEI Ilkovičova 2961 **PROGRAM:** Hackathon & Pres Validation directed by EIT **Teacher:** Josè Santamaria	**LOCATION:** FEI Ilkovičova 2961 **PROGRAM:** Lecture by Lead INN Wien about LEAD Innovation methodology Closing of Summer School

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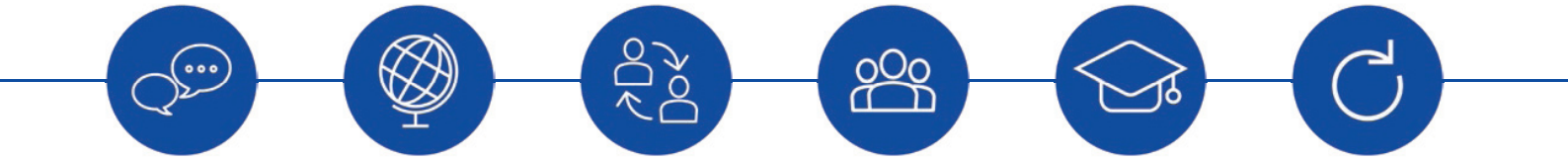
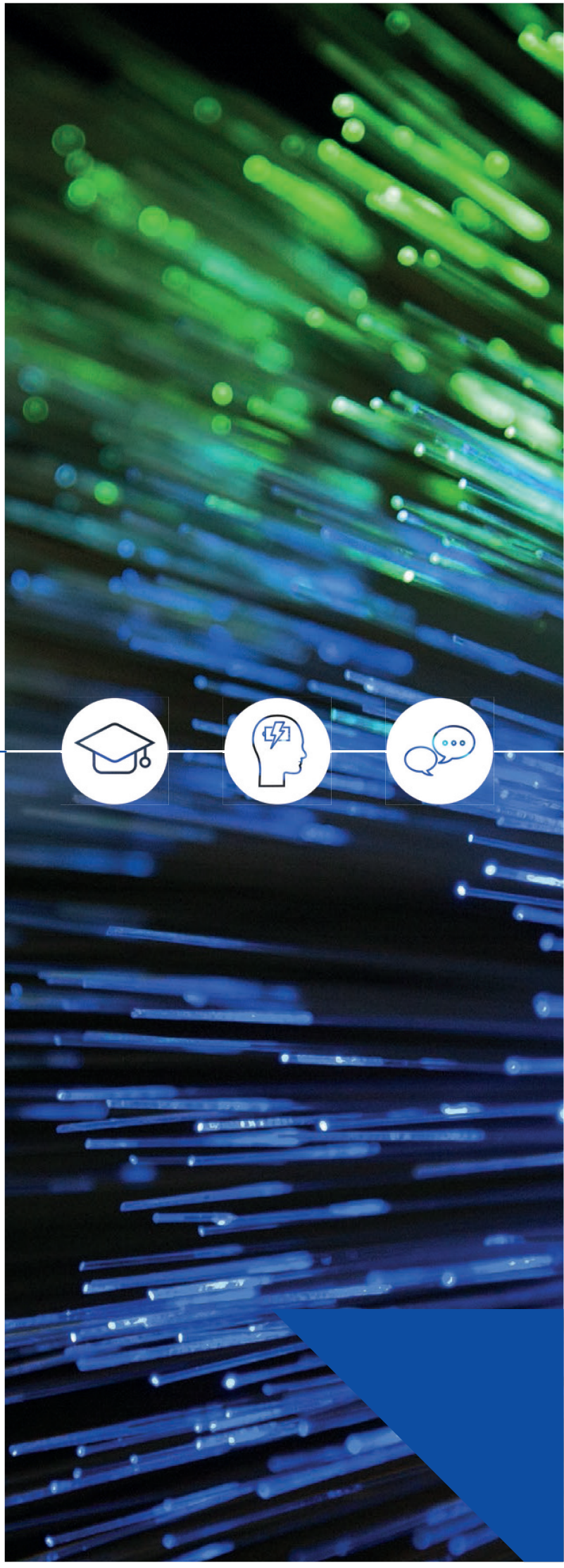


Making innovation happen!



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