

Iceland
Liechtenstein
Norway grants

USN University of
 South-Eastern Norway
 School of Business

EEA Grants

EEA Grants 21-COP-0044

Project No: COP-0044

Project title: POI 4.0 (Process optimization and Industry 4.0)

Event host organization: University of South-Eastern Norway

Event title: Multiplier Event Norway

Date and Place: 30th of November 2023, Kongsberg

USN University of
 South-Eastern Norway
 USN School of Business

PARTICIPANTS LIST
Multiplier event

No.	Name and surname	Sending organization	Sending organization's address	City of the organization	Country of the organization	Signature
1	MARIA MORGUNOVA					<i>[Signature]</i>
2	Nina Kinnu					<i>[Signature]</i>
3	Ulrik Wam					<i>[Signature]</i>
4	Carl Oismats	Dalhousie University			Sweden	<i>[Signature]</i>
5	Ther Villadsen	KDA			Norge	<i>[Signature]</i>
6	MARTIN FALK	USN			NORGE	<i>[Signature]</i>
7	Charlotte H. Sundkuist	USN			Norge	<i>[Signature]</i>
8	DARIC POWELL	SINTEF			NORGE	<i>[Signature]</i>
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11	Adeesa Joam	USN			Norway	<i>[Signature]</i>
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Norway grants

13	Anelise Bennich	KTH	Sweden	
14	Jani Erik Odde	Karlstad U	Sweden	
15	Anthony Kaufmann	Abo	Finland	
16	Osma Kaupilla	Oulu	Finland	
17	Mehrsa Fardoni	USN	Norway	
18	JARI PERANTO	JAMRAS	Finland	
19	Leo Mulan	Tampere University	Finland	
20	Morten Høy	RITA	Norway	
21	Kristens Guddimsson	Högskolan i Skövde	Sweden	
22	Ainhoa Goenetxea	KÖGSKOLAN I SKÖVDE	Sweden	
23	Emil Skov Mathsen	SYDANSKA UNIVERSITETET	Denmark	
24	Jan Longva	USN	Norway	
25	Abdellader SBITI	USN	NORWAY	
26	Frida Lant	USN	NORWAY	
27	GILLIAN WARING - Sævi	USN GUL	NORWAY	
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Host organization	University of South-Eastern Norway
Name of the legal representative	 ISN University of South-Eastern Norway
Signature of the legal representative	GILLIAN WARING - School of Business

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Process Optimization and Industry 4.0 – POI 4.0

EEA project 2022 - 2023

USN University of South-Eastern Norway
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EEA Grants

Eligibility: minimum 1 partner from EEA countries
 Program Operator: National Agency
 Duration: financing guide – in general 2 years
 Coordinator & Partner role

Why?

- Development: new programs, research
- Increase the number of mobilities
- Carrier development
- Money
- Challenge

Project & submission
 Implementation

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Program

A cooperation between the University of South-Eastern Norway (USN), Fagskolen I Viken, Norway, and Babes-Boyai University Romania .

Content:

- lectures on Industry 4.0 fundamentals and applied exercises using Lean tools and TQM tools;
- International mobilities in Romania and Norway;
- Company visits in Cluj-Napoca – Romania and Kongsberg – Norway;
- Practical activities in the Industry 4.0 training plant at Fagskolen I Viken

Aims:

Applied education program aiming to:

- (1) targeting company processes and their optimization and
- (2) creating the proper mentality for practitioners, managers and entrepreneurs towards automation and Industry 4.0.

Objectives:

- IO: Curricula for the new and innovative educational program.
- Learning materials
- 2 Intensive programs and 1 Pilot Programme
- 1 research article

POI 4.0 – Process Optimization Industry 4.0

➤ **Activities before mobility**

- ☐ Selection of students involved
- ☐ On-line contact between students before mobility



POI 4.0 Course

Imagine a world where machines talk to each other, and production processes are optimized in real time.

Welcome to Industry 4.0 - the future of manufacturing and industrial processes.

By participating in the Process Optimization Industry 4.0 project, you will be able to find out more about the fourth industrial revolution.

With advanced technologies like the Internet of Things, Artificial Intelligence, and Big Data, a factory is becoming a smart, connected, efficient, flexible, and improved quality control. In the digital industrial era, companies need to focus on the Lean philosophy and TQM (Total Quality Management) Tools.



Get ready to learn how to transform business (and production) operations with the Lean philosophy. By eliminating waste and maximizing value for customers, companies will be able to work smarter, not harder. Key principles include: reducing waste, empowering employees, continuous improvement, and delivering quality at the source.



TQM is a management approach that seeks to optimize the quality of an organization's processes and improve through ongoing improvement efforts. It involves using statistical process control, just-in-time manufacturing, and other tools to be able to solve problems, improve quality, and achieve customer goals. Common TQM tools include root cause analysis, statistical process control, and continuous improvement plans.

Both a type of the mental individuals committed to contributing to the fundamentals of industry 4.0. By understanding these principles and tools, you will gain a better understanding of the world of process optimization and industry 4.0. Ready to start business optimization operations to the next level?

Our program is presented by partners: the University of South-Eastern Norway (UNN), Fagskolen Fagbokforlaget, and BAHUȘ-BOILVAI University Romania and will include:

- Lectures on Industry 4.0 fundamentals and applied exercises using Lean tools and TQM tools;
- International meetings in Romania and Norway;
- Company visits in Cluj-Napoca - Romania and Kongsberg - Norway;
- Practical activities at the largest Industry 4.0 training plant in Europe, the Fagskolen Fagbokforlaget Didactic Laboratory;
- The opportunity to work with (and learn from) individuals/students from different parts of Europe.

Expenses for the trip to Norway will be covered by the project (accommodation, transportation).

Course Schedule



The year 2023	
March 20 th - 21 st 2023 Cluj-Napoca, RO	May 8 th - 12 th 2023 Kongsberg, NO
Monday Theoretical Training: Lean and Industry 4.0	Monday Practical Training: Fagbokforlaget Industry 4.0 Lab
Tuesday Theoretical Training: Acquisition of Skills	Tuesday Practical Training: Fagbokforlaget Industry 4.0 Lab
Wednesday New Assessment Model and Research	Wednesday Practical Training: Fagbokforlaget Industry 4.0 Lab
Thursday Company Visit: Quality Assessment Model	Thursday Company Visit: Quality Assessment Model
Friday Theoretical and Discussion	Friday Finalization and Discussion

Location (Cluj, Romania):
Fagbokforlaget Business School
Hortia Street no. 7, Cluj-Napoca
Cluj County, Romania

Location (Kongsberg, Norway):
Fagbokforlaget Business School
Hortia Street no. 7, Cluj-Napoca
Cluj County, Romania

Be a part of our exciting project and sign up now using our simple form to embark on a fulfilling journey:

<https://forms.office.com/e/JC10Bqfxxh>

Process Optimization Industry 4.0
project - participants selection

**Deadline for form submission:
March 15th, 2023.**



Selected participants (maximum 10 participants) will be contacted via email / phone on March 16th 2023.
Interested participants will need to attend both course schedules, in Cluj-Napoca and in Kongsberg.

An extra 2 participants in the selection process will be out on the waiting list.




IP #1 Romania (20-25th March 2023):


➤ **Activities during mobility**

- ☐ Arrival of guest students & social activities – 1 day before (sometimes 2 days)
- ☐ Day 1: concept, timetable, partner entity, assignment, mixed groups, preparation for interviews;
 - Lectures: Lean Management, Lean Leadership, Rapid Plant Assessment, Lean in Romania
 - tasks: set of questions/group, structure of group report
- ☐ Day 2: Lecture – Industry 4.0 and Digitalization, Sustainability, Sustainability Challenge with Digital Lean Manufacturing
 - task: group report
- ☐ Day 3: Company Visit: CSI Romania
 - task: group report
- ☐ Day 4: Report supervision
 - task: submission of group report
- ☐ Day 5: Group report presentation and evaluation





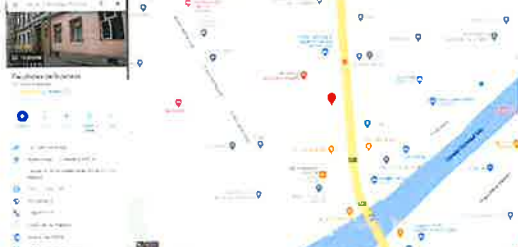
POI 4.0 Course
Course Schedule – Cluj-Napoca



POI 4.0 Course
Course Schedule – Kongsberg

The year 2023	
March 20 th - 25 th 2023, Cluj-Napoca, RO	
Monday 10:00 - 14:00 Room 119	1. Lean Management 2. Lean Leadership, Toyota kata 3. Rapid Plant Assessment and student assignment 4. Lean / Digitalization in Romania
14:00 - 16:00	5. Group Work: Library Room
Tuesday 08:00 - 12:00 Room 119	1. Industry 4.0 and Digitalization 2. Sustainability 3. Think Lean: Use Tech. Achieve the SDGs. Solving Sustainability Challenge with Digital Lean Manufacturing
12:00 - 16:00	4. Group Work: Library Room
Wednesday	Company Visit: schedule of visit to be decided/communicated on Monday/Tuesday
Thursday anytime	Group Work: Library Room
Friday 10:00 - 12:00 Amphi/boala	Presentation and Discussion

Logistics: Universitatea Babeş-Bolyai, Transylvania Business School (Faculty of Business), Horea Street no. 7, Cluj-Napoca, Cluj County, Romania, <https://goo.gl/maps/M4ZSD4f1XK5rW1at9>



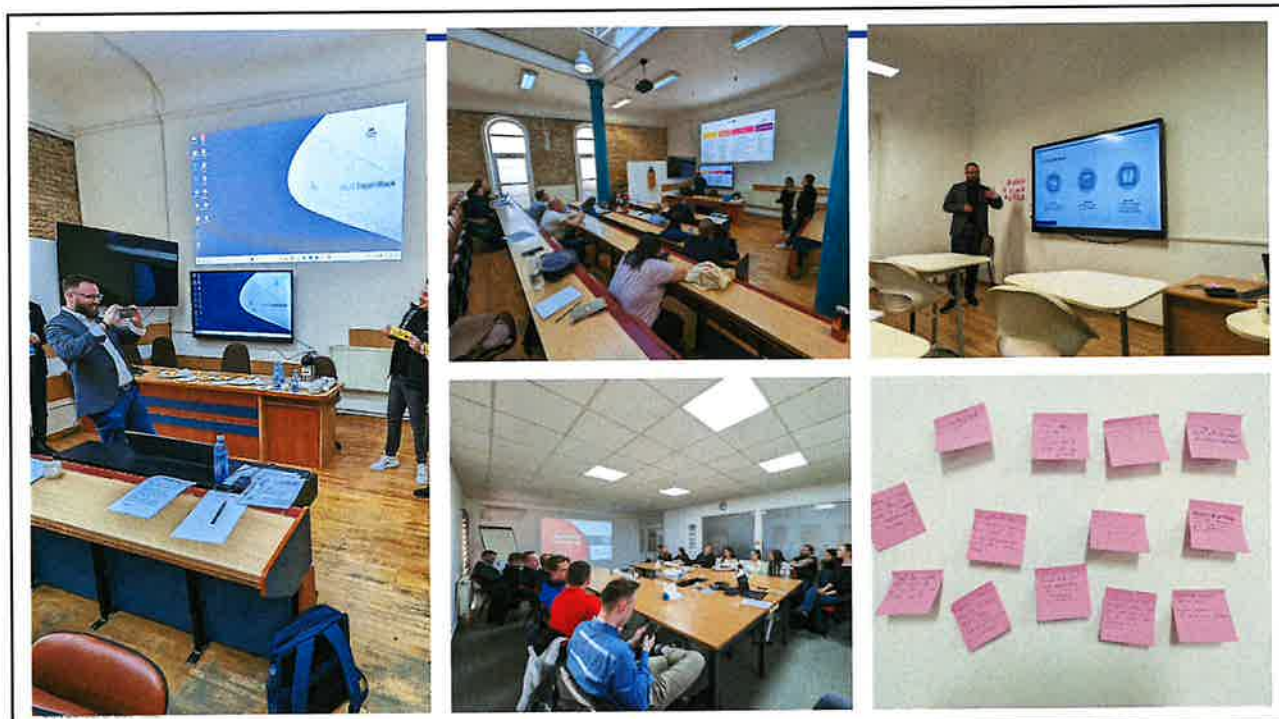
Monday 0900 - 11:00 ID - lab	Evening
• Welcome lecture	
Lunch 11:30 - 12:15	Hjertur and Endre
12:15 - 13:30 ID lab	
• Intro ID lab	
• Get to know the factory with demo: Introduction to RFID and MES 4	
15:30 - 17:00	G. Walmer, Sadevholm, E. Lankut
• Welcome to OSN campus Kongsberg with waffles and meet and greet "Getting introduced to USA" in Drone Hall	
19:00 Bowling event - 20 minute walk from campus (please pack an umbrella in case it rains :))	
Tuesday 09:15 - We meet at Campus Kroa for transport to OSD 10 - 12:00 Company visit at Oxo Hotwater https://www.oxohotwater.com	Evening
Lunch At OSD 13:00 - 16:00 ID lab	Hjertur & Endre
• Manually assembly of the product	
Wednesday 0900 - 11:30	Evening
• Trip to the Silver mines	
• 220 NOK per person - Bring warm clothes	
12:15 - 16:00 ID - lab	Hjertur & Endre
• Automated assembly of the product	
• Production flow and analysis	
Thursday Work day - writing report from company visit	Work in groups
Friday Presentation	Evening

Depending on your accommodation location in Kongsberg, you can reach the faculty location using:

- the public transport system: check with Google Maps which buses/trams you need to take,
- walking

We hope you will have a great time in Kongsberg!

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IP #1 Norway (8-12th May 2023):

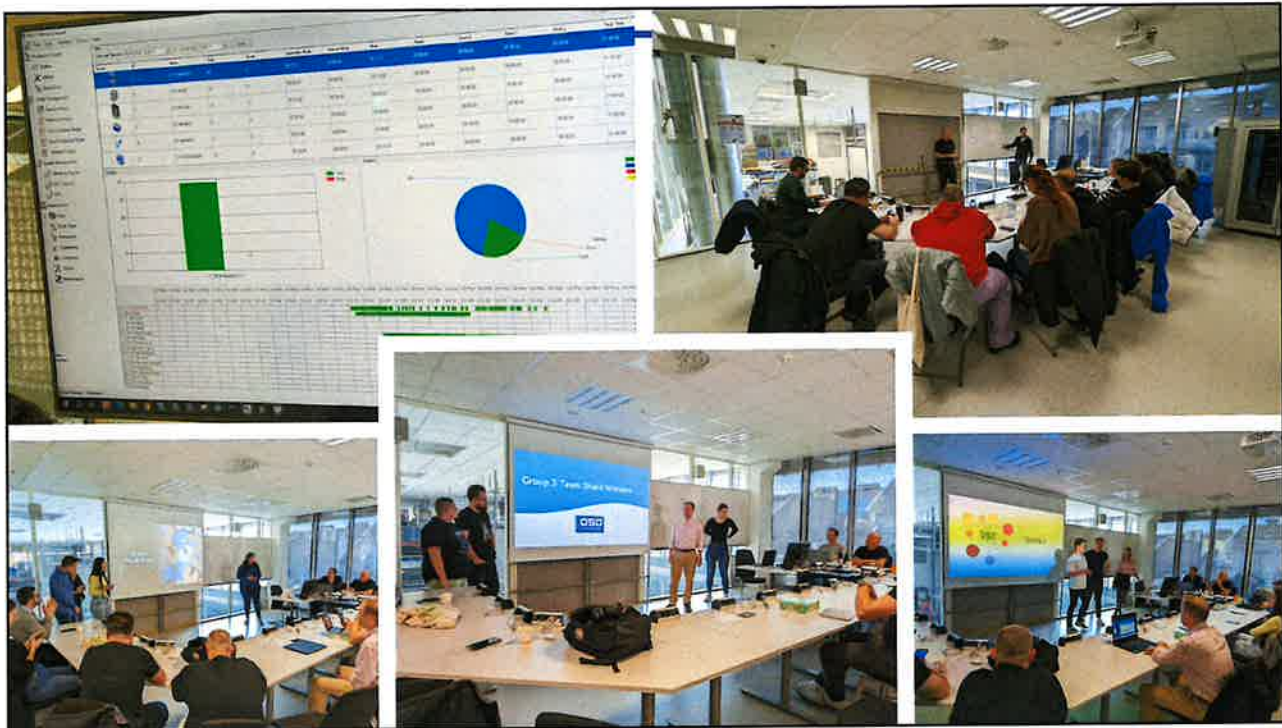
➤ Activities during mobility

- ❑ Arrival of guest students & social activities – 1 day before (sometimes 2 days)
- ❑ Day 1: Introduction Lecture in the ID Lab
 - tasks: set of questions/group, structure of group report
- ❑ Day 2: Company Visit: OSO Hotwater
 - task: group report & work in ID Lab: manual assembly of products
- ❑ Day 3: Work in the ID Lab: Automated assembly process; Production flow and analysis
 - task: group report
- ❑ Day 4: Report supervision
 - task: submission of group report
- ❑ Day 5: Group report presentation and evaluation

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Opportunities

- new project *opportunities*
- Cooperation between USN and UBB
- Staff cooperation on joint lectures in the future

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Fagskolen i Viken

Iceland Liechtenstein Norway grants

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Introduction of RSPA 4.0

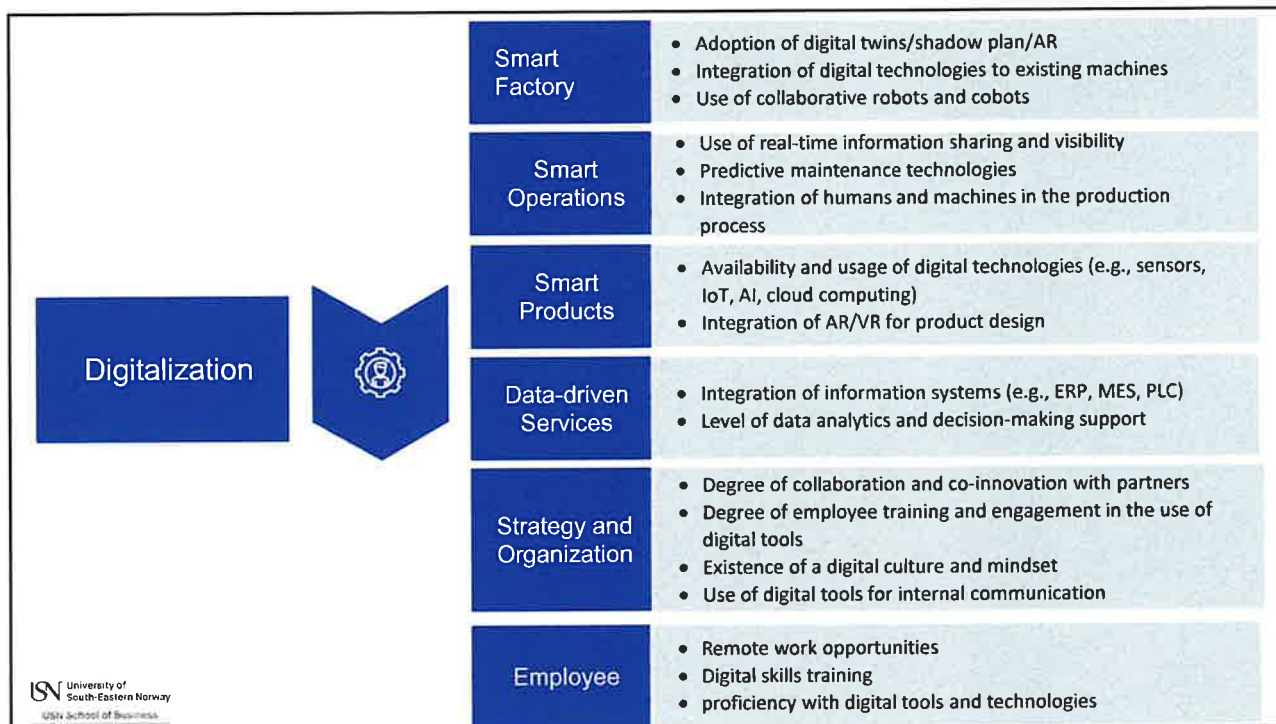
- Encompasses leanness, sustainability, and digitalization

Objective:

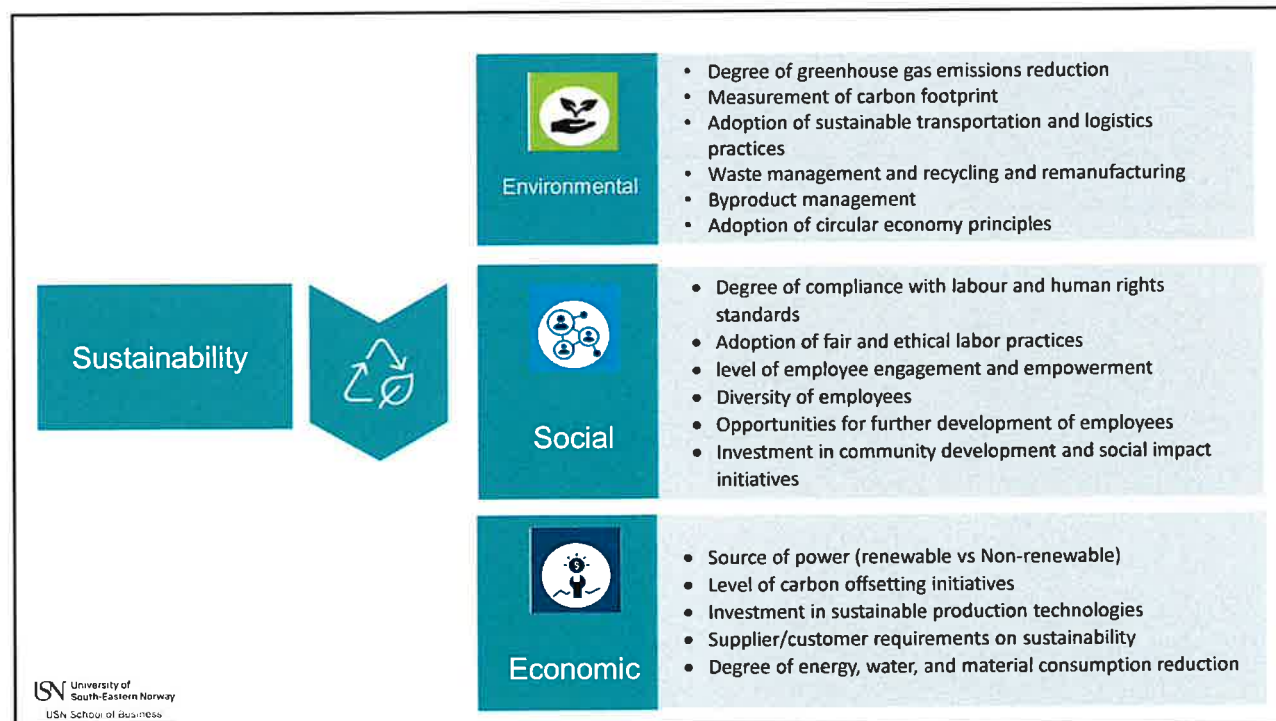
- Holistic assessment of manufacturing processes
- Identification of areas for potential enhancement

Rated by:-		Rapid Plant Assessment					
Tour Date:-		Table 1-Rating Sheet			Operation		
No.	Measure / Score	Poor	Below Average	Average	Above Average	Excellent	Best in Class
1	Customer satisfaction	1	3	5	7	9	11
2	Safety, environment, cleanliness, & order						
3	Visual Management System						
4	Scheduling system						
5	Space use, material movement & product flow						
6	Inventory & WIP levels						
7	Teamwork & motivation						
8	Condition & maintenance of tools & equipment						
9	Management of complexity & variability						
10	Supply Chain Integration						
11	Commitment to quality						
12	Digitalization						
13	Sustainability						
Totals							

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