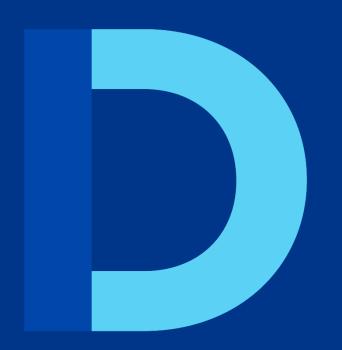


ANNUAL REPORT 2021

Content

INTRODUCTION	
CEO Harri Kulmala: Our customers grow – fast	3
DIMECC OPERATIONAL MODEL	4
Program porfolio	5
DIMECC Ecosystems	
One Sea	7
FAMN	9
FAME	11
DIMECC Programs and Projects	
Sea4Value: Fairway for Navigation	13
Sea4Value: Smart Terminals – SMARTER	14
InDEx – Industrial Data Excellence	15
LIFEX: AISA – AI for Situational Awareness	17
FFS – Towards Fossil-free Steel	18
DIMECC Co-creation Services	
PoDoCo Postdocs in Companies	19
Demobooster	21
Demola	22
DIMECC Networks	
Finnish Industrial Internet Forum – FIIF	23
High Level Forum	24
EU Activities	25
DIMECC is active in international networks	26



Shareholders 2021	27
Board of Directors	29
Management	30
Personnel	31
DIMECC Fellows	32
DIMECC Highlights	33
Key financial information	34

Our customers grow – fast

Year 2021 represented significant growth and well-expected recovery from 2020 within DIMECC. Our activity volume increased by 38 per cent, and our number of personnel increased from 10 to 13. The growth reflects the positive economic development and future-orientation among DIMECC's industrial customers, because all our activities are primarily based on private sector and their R&I investments.

Statistics Finland produced in 2021 once again the facts and figures regarding the financial performance of our customers. The message was clear and the same as in 2015: DIMECC customers grow at least twice the speed of the same industry companies, that are not our customers.

In addition, DIMECC customers' profitability continued to be significantly higher than the averages in industry and in the group of those companies, who do not yet belong to our customers. Hence, there is evidence, that the best performing companies are insiders in our activities. The direct message of this is that co-creation with the winners can be organized by participating in DIMECC activities.

The key renewals within DIMECC in 2021 took place via dedication towards EU-wide activities and more intense participation in preparing and leading larger programs to our customers. We will continue the growth especially by making match in European R&I

arenas. In 2021, DIMECC received more EU-funding, and we took part into more EU project proposals than ever before. We will invest in professional facilitation services for companies and consortia, that are looking for experienced and well-organised R&I leadership and management including project preparation as well. So far customers have reached start-ups, students, researchers, and all sizes of companies via our ecosystem. In 2022, we will include joint innovation infrastructure, and regulatory & standardization bodies more intensively to this set-up. Future will be co-created and DIMECC is the impactful and efficient co-creation hub for digitalization.

I would like to thank DIMECC's customers, shareholders, stakeholders, service suppliers, personnel, and board of directors for the growth year 2021!

Harri Kulmala, CEO



DIMECC operational model

Ecosystems

Programs and projects

Co-creation Services

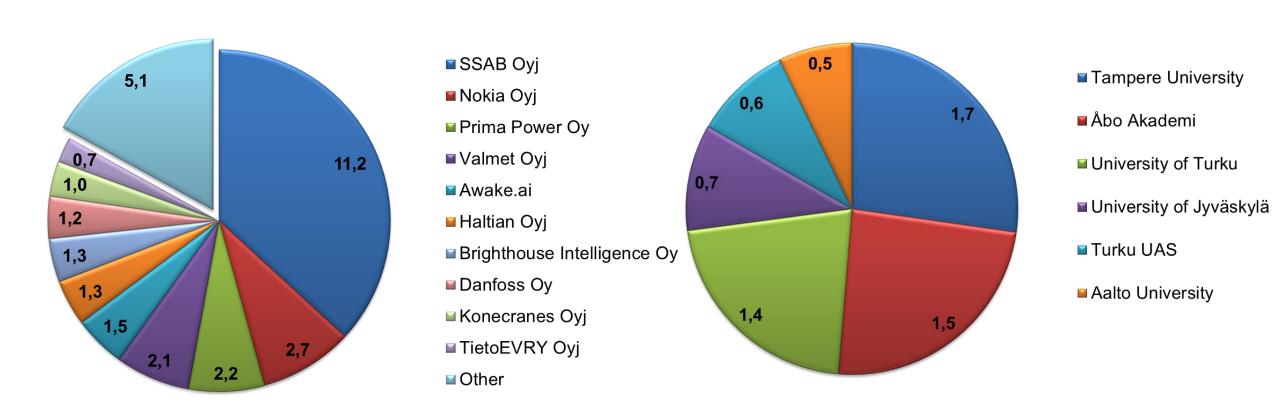
Networks



DIMECC Program portfolio

Private investment in programs, M€ (2021)

Research institute budgets, M€ (2021)



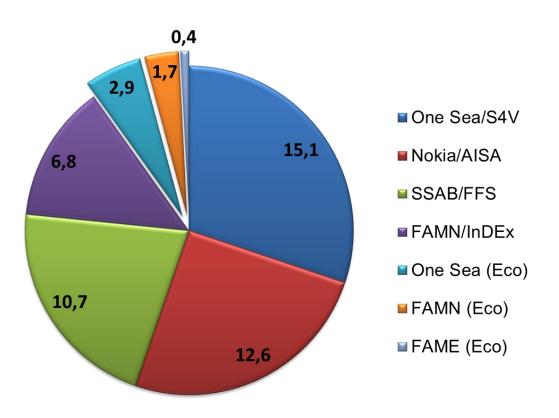


Shareholders

Non-shareholders

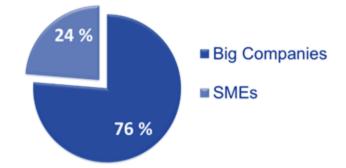
Budgetary division of program portfolio

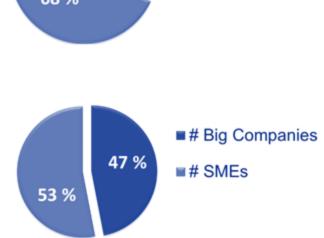
Program budgets, M€ (2021)



Share of program budgets







Number of companies



























Leading the way towards an operating autonomous maritime ecosystem by 2025.

www.oneseaecosystem.net/

One Sea Ecosystem Highlights 2021

One Sea[™] – Autonomous Maritime Ecosystem is a high-profile ecosystem with a primary aim to lead the way towards an operating autonomous maritime ecosystem by 2025. The collaboration currently gathers 10 leading marine and IT experts. The work began in 2016, and the aim is to create an environment suitable for autonomous ships by 2025.

In 2021 One Sea has re-focused its activities towards advancing and contributing to international regulations.

The ecosystem has published a white paper on the safety of autonomous and related technologies.

One Sea has also submitted a paper to IMO on the terminology of Maritime Autonomous Surface Ships (MASS).

In the Fall of 2021 One Sea received further project funding until the fall of 2023 from Business Finland.

One Sea project SMARTER, which is a part of Sea4Value program, commenced in 2021.











































FAMN improves the global competitiveness of industrial companies and accelerates their sustainable renewal and digitalisation.

www.famn.fi

FAMN Highlights 2021

The Finnish Advanced Manufacturing Network (FAMN) is a company-led open ecosystem that was established in 2021 together with the Technology Industries of Finland. FAMN was created by enlarging and enriching the Intelligent Industry ecosystem, that has been operated since 2017.

2021 was the ramp-up year for FAMN and by the end of the year already 17 companies had joined.

New Business Model Academy coaching was introduced and executed during 2021.

Two new co-innovation RDI-project preparations were started during 2021.

Co-operation with Swedish based Digitala Stambanan ecosystem was established.

DIMECC InDEx project focusing on industrial data sharing progressed during 2021 and first company results were made public. InDEx project utilised and tested the IDSA reference architecture.

IDSA reference architecture.

IDSA reference architecture.

SPACES ASSOCIATION



















































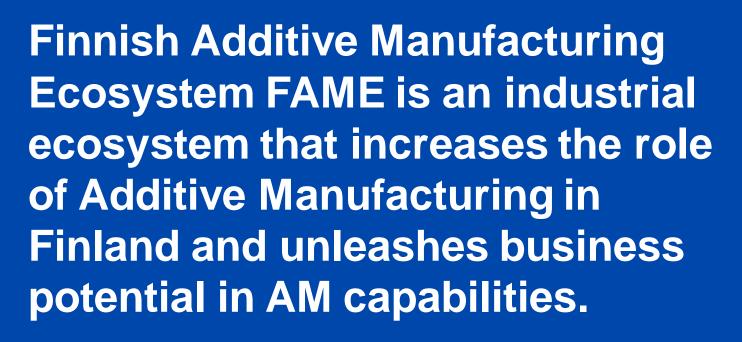












www.fame3d.fi/



FAME Highlights 2021

FAME ecosystem's Partner memberships increased by 45 and support memberships by 10 per cent.

The ecosystem organized by-weekly remote events having 40-70 participants each time. It produced more than 30 hours of video material of 3D printing. FAME organized two seminars, one live and one remote excursion.

The FAME ecosystem prepared a joint RDI project worth approximately € 6.2 million

The ecosystem established international collaboration with Swedish AMEXCI, German SDAM Alliance and Italian Additive FVG.

FAME provided the possibility to additively manufacture parts from metal to each Partner member. Over 20 pcs of metal components were additively manufactured for FAME.





Sea4Value: Fairway for Navigation

Schedule: 2020-2022

Volume: 6 M€





Fairway for Navigation project is part of the Sea4Value program, which focuses on the digitalization of port-to-port logistics chain.

The project provides blueprints towards digitalisation, service innovation and information flows in maritime transport. It prepares for advanced autonomous operations and navigation. This is preceded by ensuring safe, sustainable and efficient channel for ships to enter and leave harbours.

The project aims for wide societal influence by providing concrete research-based recommendations on regulation, business, data usage & sharing and for standardization. The project will result in a demonstrated concept for remote piloting and features and elements for the future smart fairway.

Fairway program also generates a vision and steps toward smart fairway and its features and services.

























Sea4Value: Smart Terminals - Smarter

Schedule: 2021-2023

Volume: 9 M€





Smart Terminals – SMARTER project is part of the Sea4Value program, which focuses on the digitalization of port-to-port logistics chain. SMARTER has two main objectives:

- Reduction of emissions by optimizing port logistics. Ports are often located in existing city infrastructure with restricted possibilities of re-design without major investment. The port areas are typically also condensed with limited capacity. SMARTER seeks digital solutions to make notable difference in emissions by smarter logistics.
- Exceptional flow and experience for the passengers and cargo.
 The project creates replicable models for organizing the passenger and cargo logistics.

































Industrial Data Excellence InDEx

Schedule: 2019-2022

Volume: 8,5 M€



DIMECC

The vision of the Industrial Data Excellece (InDEx) program is to unlock the value of data as an enabler for the next industrial revolution centered around artificial intelligence in the Finnish manufacturing industry.

The program work is driven by two industry led application domains: smart chain and smart factory.

The application domains form the full chain of operations for smart manufacturing, full digitalized industrial practices with connectivity in the entire value chain between smart equipment, facilities, products and processes.































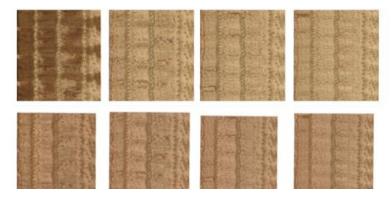
InDEx program highlights



HT Laser's logistic data development in InDEx program improves services

The information flow related to the material is a key development target in the systematic digitization of HT Laser's processes and data sharing in the value network.

As part of a larger digitization project of logistics processes, the aim was to develop collection of sheet metal parts related to deliveries and to increase the efficiency of related data transfer both internally and between HT Laser and customer companies. After the development, information about the desired packing order and packaging is transferred from the customer company's system to the supplier.



Raute develops Al tools in InDEx program to develop more energy-efficient plywood mills

Raute, a global supplier of plywood and LVL production technologies, is developing AI tools to provide its customers with more energy-efficient, higher yield and less waste producing solutions. The quality of plywood can be improved if individual veneer sheets can be traced from the beginning to the end of the production process. The journey of veneer sheets from log to plywood requires many steps where it is very impossible to use stickers or other marking means as tags. Instead, Raute has developed identification by means of cameras and artificial intelligence in DIMECC's InDEx program.



Prima Power revolutionizes sheet metal processing with cloud manufacturing

Prima Power focuses on digitalizing traditional laser and sheet metal processing industry. In InDEx program, Prima Power has developed a Cloud Manufacturing solution, which digitalizes sheet metal orders. This AI-based solution automizes the manual workflow and reduces the time to create quotation and production plan from days into seconds. The software-as-a-service (SaaS) product calculates instant price quotes, processes orders online and tracks order status. The benefits of the solution are the shorter lead response time as well as cost and time savings.



AISA – AI for Situational Awareness

Schedule: 2021-2024

Volume: 12 M€



AISA (AI for Situational Awareness) project focuses on taking AI-assisted situational awareness to the top of the industrial world.

The utilization of situational awareness created by artificial intelligence and versatile sensing – in particular, the processing of video, image and audio data streams using modern machine learning methods – are central to the AISA project.

Leveraging high speed edge computing and the ultra-low latency power of 5G networks will also ensure that industrial applications have rapid response times.

The three-year AISA project, which began in June 2021, is initiated by Nokia and facilitated by DIMECC.

















FFS Towards Fossil-free Steel

Schedule: 2021-2023

Volume: 10,7 M€

FFS Towards Fossil-free Steel

The Towards Fossil-free Steel research project supports SSAB's strategic goal of gradually transitioning towards fossil-free steelmaking by mapping the solutions and alternatives to replace fossil fuels with renewable energy in steelmaking.

The FFS project's goal is to determine solutions to produce green forms of energy, i.e. hydrogen, biochar and biogas - for the steel industry. In addition, the project will study the smelting of hydrogen-reduced sponge iron in an electric arc furnace, the manufacture of fossil-free lime and new solutions to utilize the by-products created in the steelmaking processes.

DIMECC provides SSAB with the management of research and development projects towards Fossil-free Steel production. In parallel to Fossil-free Steel project, Fossa (Fossil-free Steel Applications) will start in January 2022.

Project partners include: SSAB, Tapojärvi, Luxmet, Nordkalk, Ovako, Fortum, Valmet, University of Oulu, Åbo Akademi, VTT & other companies supporting the project are Andritz, ABB, Finnsementti.



Co-creation Services

PoDoCo -

Post Docs in

Companies

DIMECC



Post Docs in Companies, PoDoCo™ program, is a joint initiative of Finnish universities, industry and foundations.

The aim of the PoDoCo program is to promote academic research supporting long term competitiveness and strategic renewal of Finnish companies, and the employment of young doctors in industry.

Collaboration is based on PoDoCo project that consists of two phases: research period and targeted research period (6-12 months each).

Research period is funded by a foundation and targeted research period by the company.

There are two application rounds each year: Spring (March 1 – April 15) and Autumn (September 15 – October 31)

www.podoco.fi/





















PoDoCo highlights 2021

201 collaborative projects between companies and Postdocs in 6 years since 2015.

In 2021 PoDoCo programme received 62 funding applications and 32 of them were funded. Of these applications 39 arrived for the spring round.

Because of COVID19, all PoDoCo events were held digitally.

"I had very little experience in customer projects, and it turned out that I absolutely love solving problems for clients and developing the internal processes to make the work more efficient."

PoDoCo doctor who was hired permanently as project manager in a SME

"...Most importantly, the PoDoCo project provided me a chance to prove my skills in the eyes of the collaborating company and, hence, to land a job in the industry."

PoDoCo doctor who was hired permanently as a chemist in a SME





Co-creation Services





Demobooster

www.demobooster.com/

Demobooster[™] is a customized innovation process that gives companies an opportunity to boost their operations through new ideas and connections.

In Demobooster, Applier company sets a challenge for Producer companies and gets 3-5 pitches for a possible Solution on Demobooster Demoday.

Producer company that pitches the best solution proceeds to make a Proof of Concept (PoC) with applier.

Since 2015, DIMECC has organized 14 successful Demodays with 46 different challenges and 122 innovative solutions, of which 26 have resulted in a concrete demo. Altogether, 64 companies have participated in Demobooster.

In Fall 2021, Demobooster Tampere was initiated in cooperation with Business Tampere.

Co-creation Services





Demola

www.demola.net

Demola is partly owned by DIMECC Ltd.

Demola Global helps businesses and organisations to explore future impacts and driving forces to build future-proof strategies. Since 2011, Demola has worked with more than 1,500 corporations, growth companies and public organisations.

In 2021, Demola Portugal Initiative was established together with Portuguese polytechnics, Portuguese government, Finnish ministry for foreign affairs, and Demola Global.

By building a bridge between the decision-makers of today and tomorrow, Demola aims for improved and more democratized ability to react to changes as a society.

Networks





Finnish Industrial Internet Forum – FIIF

FIIF is a company-driven match-making forum that boosts sustainable digitalization of companies and their businesses.

The main target of the FIIF is to showcase concrete initiatives and practical actions that turn digitalization visions into business, as well as ensure and enhance the competitive edge of companies.

During 2021 FIIF organized 8 events, two of which were hybrid events, covering the following topics: "Private 5G networks", "Industrial applications of drones", "Cyber security in IoT", "II Ecosystem and FIIF", "Cloud-native development in IoT", "GAIA-X Industry Data WG", "EDGE AI in industry", and "Extended Reality in industry". There were in total over 440 registered participants in these events.

Seven issues of FIIF Newsletter and one FIIF Alert were published. During 2021 FIIF's web pages attracted 3100 users.

In December 31st 2021, FIIF had 130 partner organizations and 420 names on its mailing list.

www.fiif.fi

Networks

High Level Forum



High Level Forum is an international forum devoted to co-learning between the leading innovation ecosystems. It is managed by the Grenoble Innovation Campus GIANT (Grenoble Innovation for Advanced New Technologies).

The High Level Forum was initiated in 2012. In the Forum, high-performance city-based innovation ecosystems are present. Tampere is the Finnish city invited to attend the HLF among more than 30 internationally recognized cities in innovation. CEO Harri Kulmala belongs to the HLF Steering Committee.

The goal of the High Level Forum is to share policies, strategies and experiences about innovation management and promotion between leading campuses, to encourage and strengthen collaboration between the world's most powerful innovation ecosystems, and to develop common initiatives for maximizing the social and economic benefits of innovation programs from the participating campuses.

High Level Forum will organize its Annual Summit 2022 in Finland. DIMECC has in less than ten years with active participation in the Forum brought Finns the opportunity to learn from the best and get the high-performing innovation ecosystem representatives to Finland.



DIMECC's EU activities

European Commission

EDIHs

DIMECC is actively participating in the formation of three European Digital Innovation Hub candidates from Finland.

5STAR eCorridors EDIH promotes paperless processes and digital multimodal logistics to enable digitalization of European TEN-T corridors.

(role = coordinator)

Robocoast EDIH applies AI and cybersecurity to promote sustainable growth and competitiveness of the Finnish manufacturing industry.

(role = associated partner)

SIX Manufacturing EDIH aims to supercharge the Finnish manufacturing industry through national and international collaboration and operational excellence. (role = beneficiary)



Adma TranS4MErs accelerates factories to become Factories of the Future embracing the ecological, digital, and societal challenges.

Supports ambitious SMEs on their transformation journey

A €5.6M project funded by Horizon 2020 Research and Innovation Framework Programme of the European Union, building on the work of ADMA, the European Advanced Manufacturing Support Centre

Launched on 1st October 2021. The project will run for 3 years and will be implemented by a consortium of 38 partners from the 27 European Union member states.

DIMECC is active in international networks





































Shareholders 2021

SHAREHOLDER	N. OF SHARES				
Aalto-korkeakoulusäätiö	150	Kaakkois-Suomen ammattikorkeakoulu	12	Reaktor Innovations Oy	12
ABB Oy	120	Knowit Cloud Partnerships Oy	12	Sanoma Oyj	120
Andritz Oy	50	KONE Oyj	120	SSH Communications Security Oyj	12
Bittium Technologies Oy	120	Konecranes Oyj	120	Stiftelsen Arcada	9
Boliden Kokkola Oy	50	Kongsberg Maritime	50	Stiftelsen Svenska Handelshögskolan	40
Cargotec Oyj	120	Kumera Oy	50	Suunto Oy	12
Centria Ammattikorkeakou	lu Oy 12	Lapin Ammattikorkeakoulu Oy	40	Tampereen Ammattikorkeakoulu Oy	40
CSC-Tieteen tietotekniikan	keskus Oy 12	Lapin Yliopisto	24	Tampereen korkeakoulusäätiö	76
Digita Oy	52	Lappeenrannan teknillinen yliopisto	64	Technopolis Oyj	60
Elisa Oyj	120	Laurea Ammattikorkeakoulu Oy	52	Teknologian tutkimuskeskus VTT Oy	210
Oy L M Ericsson Ab	120	Medialiitto	12	Teleste Oyj	12
EXFO Oy	12	Metropolia Ammattikorkeakoulu Oy	52	Telia Finland Oyj	120
Fastems Oy Ab	50	Metso Oyj	120	Tieto Finland Oy	120
FIMA Forum for Intelligent	Machines ry 50	Meyer Turku Oy	120	Tuotekehitys Oy Tamlink	64
Finn-Power Oy	50	Murata Electronics Oy	24	Turun Ammattikorkeakoulu	52
F-Secure Oyj	12	Nokia Oyj	120	Turun yliopisto	64
Haaga-Helia Oy Ab	12	Nokia Solutions and Networks Oy	84	Vaasan yliopisto	40
Helsingin yliopiston rahasto	ot 24	Oulun yliopisto	64	Wapice Oy	50
Inno-W Oy	12	Outokumpu Oyj	120	Wärtsilä Finland Oy	120
Itä-Suomen Yliopisto	12	Outotec Oyj	50	Åbo Akademi	24
Juridiska Personen Åbo Ak	kademi 40	Prizztech Oy	12	Älykkään liikenteen verkosto - ITS Fink	and ry 12
Jyväskylän ammattikorkeal	koulu 12	Rautaruukki Oyj	120		
Jyväskylän yliopisto	52	Raute Oyj	50		

66 shareholders:

43 companies, 23 research institutes































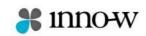




































































































Board of Directors



Karno Tenovuo Chairman of the Board CEO, Awake.ai



Mika
Toikka
Vice Chairman of the Board
EVP Commercial
Operations, VTT



Tapani
Tilus
CDO,
Raute Oyj



Markku
Haakana
Country Finance
Manager,
ABB



Jari
Still
Chief Information
Officer,
F-Secure



Rauno
Hatakka
Head of
Technology
Management,
KONE

Deputies Tuuli Ahava, Jari Hämäläinen

Board of directors was elected in the annual general meeting in April 27, 2020. The board had 8 meetings in 2021. In 2021, the remuneration paid to board members was 150e/meeting (200e for the chairman).

PricewaterhouseCoopers Oy, and Mr. Tomi Moisio as the auditor in charge, continued as the auditor of the company.

Management



Dr. Harri KulmalaChief Executive Officer

External positions in 2021:

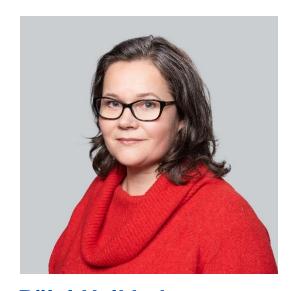
- Finnish Academy of Technical Sciences, vice chairman
- Member of The Royal Society of Arts, Manufacturing & Commerce
- Member of high-level group, EU ManuFuture technology platform
- Associate professor (docent), LUT
- Member of innovation and competitiveness council, Finnish Technology Industries
- Demola Global Ltd. member of the board
- Scouter Mobility Ltd. member of the board
- Linz Center of Mechatronics, member of strategic advisory board
- GIANT High Level Forum, member of steering committee



Risto Lehtinen (M.Sc.Eng.) Head of Co-creation

External positions in 2021.

• Auditor for KOTEL r.y.



Päivi Haikkola (M.Sc. Nav. Arch, M.Sc. Econ.) Head of Programs

External positions in 2021:

- Member of the Research Committee of Finnish Marine Industries
- Member of The Royal Institute of Naval Architects
- Member of the Board of the Finnish Society of Naval Architects

Personnel (Dec 31st 2021)



Tomi Kankainen (M.Sc., M.A.) Business Development Officer



Antti Karjaluoto (M.Sc. Econ., M.Sc. Admin.) Disruptive Renewal Officer



Kaisa Kaukovirta (M.A., BBA) Communications & Marketing Manager



Markus Korpela M.Sc. (Eng) Ecosystem Lead



Jukka Merenluoto M.Sc., MBA Senior Ecosystem Lead



Kari Muranen (B.Sc.Eng) Senior Ecosystem Lead



Dr. Arto Peltomaa Program Manager



Doris Pryjma (M.Sc.Eng) System Manager



Dr. Seppo TikkanenSenior Ecosystem
Lead



Marika Moilanen (BBA) Communications & Marketing Manager (maternity leave)

DIMECC Fellows

DIMECC Fellow is a public recognition to a person, who represents the official set of DIMECC values in force at the time of nomination and forwards these with his/her behaviour.

DIMECC values consist of **openness & transparency**, **efficiency & effectiveness** in all activities, and expressed cooperation and **respect and recognition** of competence and expertise.

The person to be nominated as "DIMECC Fellow" must fulfil the following criteria:

- Many years of work for and publicly shown support to DIMECC Ltd. (no need to be formally DIMECC employee).
- Experienced by colleagues and others as a strong supporter for openness, transparency, and renewal.
- Effective and efficient work for the generic and overall success of ICT, manufacturing & engineering industries.
- Willingness and capability to combine scientific and practical interests.
- Positive and open mind towards new, radical, and non-traditional ways to organize R&D&I and management of these.

DIMECCFELLOWS	Nomination year
#1 Pentti Karjalainen, Professor, University of Oulu	2013
#2 Ilkka Niemelä, Director, The Federation of Finnish Technology Industries	2013
#3 Matti Sommarberg, CTO, Cargotec Oyj	2013
#4 Arto Ranta-Eskola, R&D director, SSAB	2015
#5 Ismo Vessonen, Senior Research Scientist, VTT	2015
#6 Janne Järvinen, R&D director, F-Secure	2017
#7 Markku Korkiakoski, Director, Sales and Business Development, Bittium	2017
#8 Sauli Eloranta, EVP, Rolls-Royce	2017
#9 Miia Martinsuo, Professor, Tampere University of Technology	2018
#10 Tomas Hedenborg, President & CEO, Fastems	2018
#11 Yrjö Neuvo, Professor, Aalto University	2018

DIMECC Highlights 2021









Twin Transition Day – 14th Annual Seminar of DIMECC was organized with Business Finland and Kalmar.

Arto Keskinen, SVP Projects, Kalmar Automation Solutions welcomed the audience with the assistance of Doris Pryjma from DIMECC. DIMECC Prize 2021 was awarded to Brighthouse Intelligence for developing the smart fairway and remote pilotage technologies. CEO Harri Kulmala (left) and Program Manager Seppo Tikkanen (right) handed over the prize to Brighthouse Intelligence's Managing Director Markku Sahlström (center). Mitutoyo hosted FAME Ecosystem members at their Pirkkala solution center and introduced measuring technology and its utilization in 3D printing.

Key financial information

The financial year 2021 of DIMECC ended December 31st. Due to the special role of DIMECC as a non-profit company, the key financial information is presented in short form and without traditional business performance measures.



Profit and Loss Statemer	nt	Balance Sheet	
Income		Assets	
Net sales	808 587,12	Stocks, shares, and fixed assets	1 352 307,00
DIMECC Program management fees	419 155,00	Long-term investments	4 545,32
Other income	672 612,42	Short-term receivables	841 484,83
Total Income	1 900 354,54	Cash and bank balances	1 194 354,29
Expenses		Totalassets	3 392 691,44
Materials & services	-177 896,24	Liabilities and shareholders' equity	
Personnel costs	-1 284 185,73	Restricted equity	1 146 500,00
Other expenses of operations	-323 885,09	Non-restricted equity	2 302 113,91
Total expenses	-1 785 972,06	Net losses from previous years	-511 922,44
Operating profit	114 387,48	Net profit of the year	172 693,83
Financial income	58 306,35	Liabilities	283 306,14
Profit of the year	172 693,83	Total liabilities and shareholders' equity	3 392 691,44

Annual Report 2021

DIMECC Ltd.
Åkerlundinkatu 8
33100 Tampere
Finland
www.dimecc.com
Business ID (Finland)
2179030-4

