

---

# CloudiFacturing Experiments

Ipar 4.0 – 5<sup>th</sup> March 2021

**UNIVERSITY OF  
WESTMINSTER** 

**Prof Tamas Kiss**  
University of Westminster, London, UK



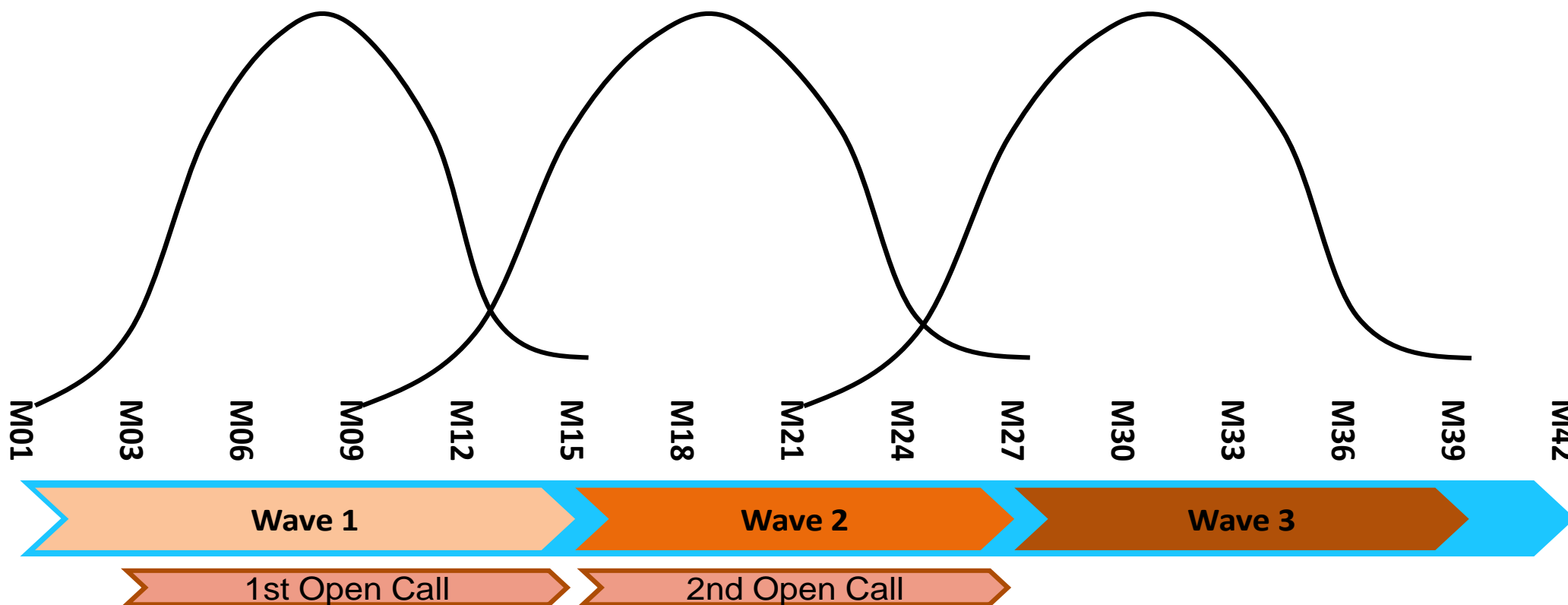
# A short personal introduction

- Professor of Distributed Computing at the University of Westminster, London
- Director of Research Centre for Parallel Computing
- 20 years experience in parallel and distributed computing, especially for the manufacturing and healthcare sectors
- Participated in 17 EU funded projects
- Coordinated 3 EU projects
  - One with cascade funding (CloudSME)
- Leader and coordinator of the application experiment activities in CloudiFacturing



# Application experiments in CloudiFacturing

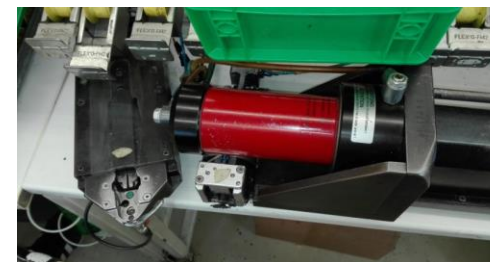
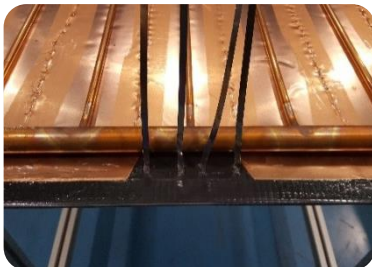
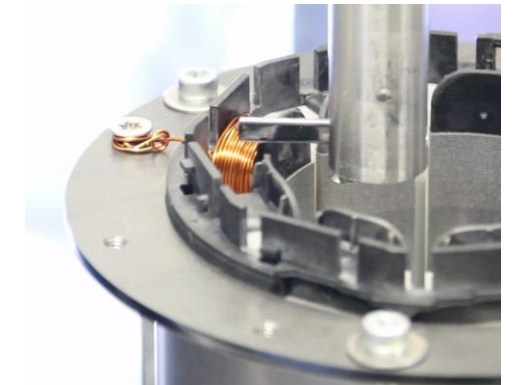
- 21 application experiments executed in three waves
- **Aim:**
  - **cross-border** application experiments to further **mature** and **validate** the CFG technology
  - generate the first customers **of the emGORA** and help achieving a critical mass



# CFG experiment examples – wave 1

1. Optimizing design and production of electric drives
2. Cloud-based modelling for improving resin infusion process
3. Improving quality control and maintenance at manufacturing SMEs using big data analytics
4. Numerical modelling and simulation of heat treating processes
5. Optimizing solar panel production
6. Optimizing efficiency of truck components manufacturing processes by data analytics
7. Simulating and improving food packaging

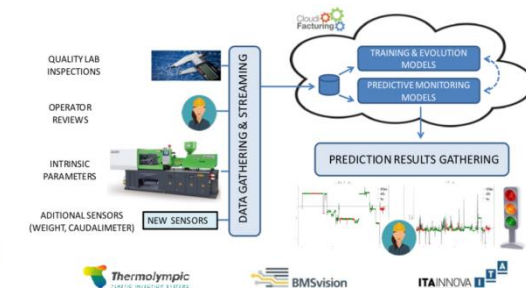
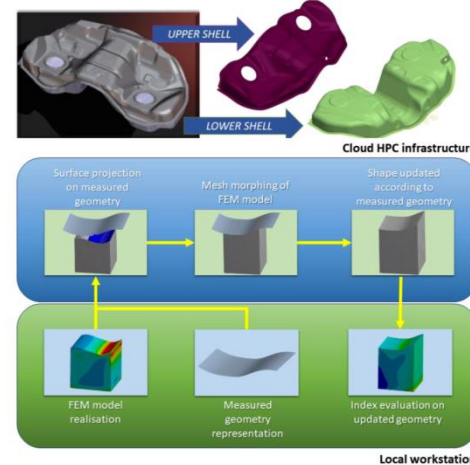
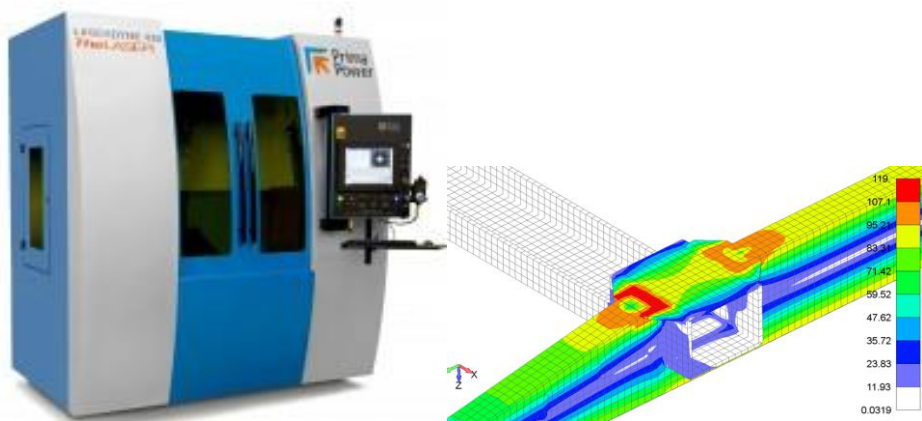
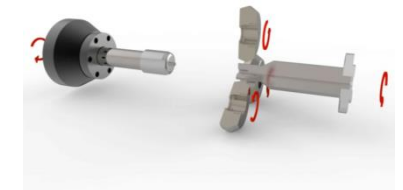
- All experiments completed and reported in D1.2
- Most experiments are expected to be offered in the emGORA



# CFG experiment examples – wave 2

8. Flowforming process calibration via cloud optimisation
9. Cloudification of image analysis for human measure collection for personalised protection clothing engineering and production
10. Smart Thermoplastic Injection
11. Cloudified analysis of multi-sensorial data for optimised manufacturing
12. Update of CAE models on actual manufactured shapes
13. Optimisation of the production process of metal structures
14. Data-twin based and fog computing driven proactive control and maintenance in laser-based manufacturing

Forward flow forming



# How experiments are supported within the project

Management/coordination (UoW)							
	Exp. 8	Exp. 9	Exp. 10	Exp. 11	Exp. 12	Exp. 13	Exp. 14
End User	DENN	TroTusTex	Thermolymph.	DURIT	CMS	MVE	Emdip
ISV/VAR/ Research	QUANTECH, CIMNE	i-Deal	BMS, Itainnova	Brascintrol, CERTH, OF-ADC	RBF-Morph, RINA, Ansys	Vodena, UoK Fac. Scie, Fac. Eng.	Netico, Nissatech
HPC/Cloud Provider	CloudSigma, IT4I	IT4I	CloudSigma	IT4I	IT4I	CloudSigma	CloudSigma
DIH	IT4I	Stam	Insomnia	Insomnia	DFKI	Innomine	Stam
Competence Centres	SZTAKI, CloudBroker, Fraunhofer	SINTEF, DFKI	CloudBroker, SZTAKI	IT4I Fraunhofer	SINTEF, DFKI, Fraunhofer	SZTAKI UoW CloudBroker Fraunhofer	CloudBroker
Technical and usability requirements collection and evaluation (UNOTT)							
Business support (SUPSI)							

## How experiments are supported within the project

- Technical support – help in implementation and use of technology
- Access to Cloud/High Performance Computing resources
- Support in requirements collection – technical and usability requirements
- Business coaching – business analysis
- Commercial onboarding activities – preparation for commercial exploitation
- Generic guidance and leadership by the DIHs

# Impact is what the EC wants to see

Wave	KPI	Enhanced new products services	Increase in turnover (K€)	Increase in employment	New contacts/partners	More efficient business processes	Reduction in time to product/market	Improved customer satisfaction	Increased business practice	Partners in new countries
Wave 1	Within 1 year	19	1,645	13	52	For 81% of partners	10%-80%	5%-100%	For 75% of partners	17
	Within 5 years	82	8,545	60	190	For 81% of partners	20%-80%	10%-100%	For 75% of partners	69
Wave 2	Within 1 year	23	5,820	123	58	For 94% of partners	For 83% of partners	For all partners	For 89% of partners	24
	Within 5 years	51	38,110	340	221	For 94% of partners	For 83% of partners	For all partners	For 89% of partners	83
Wave 3	Within 1 year	20	8,665	16	81	For 79% of partners	For 63% of partners	For 84%	For 89% of partners	29
	Within 5 years	55	29,550	84	274	For 84% of partners	For 68% of partners	For 84%	For all partners	98
Overall	<b>Within 1 year</b>	<b>62</b>	<b>16,130</b>	<b>142</b>	<b>191</b>	<b>For most</b>	<b>For most</b>	<b>For most</b>	<b>For most</b>	<b>24</b>
	<b>Within 5 years</b>	<b>188</b>	<b>76,205</b>	<b>484</b>	<b>685</b>	<b>For most</b>	<b>For most</b>	<b>For most</b>	<b>For most</b>	<b>83</b>



## Open calls (1 & 2) in numbers

■ Proposals <b>submitted/successful</b> :	61/14	23% success
■ <b>Companies/organisations participating</b> :	170	
■ <b>Companies/organisations new to EU projects</b> :	69	41%
■ <b>SME/midcap partners</b> :	136	80%
■ <b>Manufacturing companies</b> :	59	35%
■ <b>Technology companies</b> :	82	48%
■ <b>Countries participating</b> :	28	
■ <b>Hungarian partners applying/successful</b> :	12/4	33% success

## Experience with Hungarian participation

- **First Open Call:** 5 Hungarian partners in various applications – none of these were successful
- **Reasons:**
  - Good ideas but less well-written applications
  - Do not address assessment criteria properly
  - Does not concentrate on key aspects
- **Second Open Call:** 7 Hungarian partners – 4 successful (in 2 proposals)
- **Reasons:**
  - Detailed feedback from first call
  - Working closer with DIH (Innomine)
  - Working closer with technical support team from project (Westminster)

# How to write a good proposal

- Take time to read documentation
- Follow instructions/guiding notes thoroughly
  - Highlight how you addressed key points in guidance, e.g. sections, headings, bold fonts etc.
  - Consider and address evaluation criteria thoroughly
- Keep rules (e.g. page limits)
- Concentrate on what the project/evaluators want to see
- Ask questions, attend webinars, talk to the project
- Write clearly – check language
  - The evaluators will only assess what they read, you cannot assume that they have further information
- Budget should be realistic

# Thank you

## Any questions?

**UNIVERSITY OF**  
LEADING  
THE WAY  
**WESTMINSTER** 

Prof. Tamas Kiss  
Director of Research Centre for Parallel Computing  
University of Westminster

115 New Cavendish Street  
London, W1W 6UW  
United Kingdom

Email: [t.kiss@westminster.ac.uk](mailto:t.kiss@westminster.ac.uk)