



MULTI-FUN

ENABLING MULTI-FUNCTIONAL PERFORMANCE
THROUGH MULTI-MATERIAL ADDITIVE MANUFACTURING

Grant Agreement 862617

MULTI-FUN

Enabling **MULTI-FUN**ctional performance through multi-material additive manufacturing

Innovation Radar Questionnaire

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1. Innovations

SUMMARY OF PROJECT INNOVATIONS	
1	New Aluminium 6000-series wire electrodes for WAAM (MIGAL.CO)
	MIGAL.CO's new Aluminium wire electrode "MA-6063" is dedicatedly suitable for Wire Arc Additive Manufacturing (WAAM), since the application of Titaniumboride (Ti5B1) particles is able prevent usual hot cracking effects.
2	Bimetallic coated optical fibres for WAAM applications (Inphotech)
	One of the innovations developed under the project are bimetallic fiber optic coatings dedicated to integration with aluminum. The innovative composition of the layers ensures, on the one hand, excellent adhesion of the coating to the optical fiber, and, on the other hand, good integration with the surrounding metal. An important feature of the developed product is the preservation of optical properties allowing for the implementation of optical distributed measurements after the integration of the optical fiber in the structure.
3	Optical Fibre placing robotic system (LORTEK)
	Device to automatically place OFs inside metallic parts manufactured by DED-Arc process (WAAM). The system enables the introduction of OFs during WAAM following a fibre embedding strategy developed in the project, consisting of a tailored OF design, machining of insertion channels and filling by selected WAAM process parameters. Embedded OF provide a sensing functionality to metallic parts encompassing temperature, distortion and vibration monitoring. Added value of the innovation is related to the enhanced sensing functionality during the manufacturing of the part and its lifetime. This system is part of the multi-robotic WAAM cell concept designed by LORTEK for manufacturing multimaterial and multifunctional components in standalone working cell including arc welding-based deposition, milling and automated OF embedding.
4	Multi-material add-on Software (WAAM3D)
	WAAM Planner with Multi-process support can make the standard DED deposition path planning package capable of incorporating multiple material or multiple processes. By default, it can produce tool path for rolling and peening with custom parameters. The structure of the modules further allows more processes to be introduced with minimal changes to the existing software such as machining or NDT.

1.1. Innovation 1 – New Aluminium Wires

INNOVATION 1	
1. Title of the innovation	
New Aluminium 6000-series wire electrodes for WAAM	
2. Description of the innovation	
MIGAL.CO's new Aluminium wire electrode "MA-6063" is dedicatedly suitable for Wire Arc Additive Manufacturing (WAAM). The main feature is the addition of ~0,30% Titanium boride particles to the AlMgSi0,5 alloy. The particles lead to a very fine grain structure, leading to a much-reduced sensitivity to the otherwise usual solidification cracking behaviour. MA-6063 can reach a yield strength of 200-260 MPa with an elongation between 6 - 12% by heat treatment.	
3. This innovation is ...	
Under development	
Already developed but not yet being exploited	x
Being exploited	
4. Characterise the type of innovation (choose one only)	
Significantly improved product	
Significantly improved service (except consulting services)	
Significantly improved process	
Significantly improved marketing method	
Significantly improved organisational method	
Consulting services	
New product	x
New service (except consulting services)	
New process	
New marketing method	
New organisational method	
Other	
5. Level of Innovation: What is the level of innovation?	
Some distinct, probably minor, improvements over existing products	x
Innovative but could be difficult to convert customers	
Obviously innovative and easily appreciated advantages to customer	
Very innovative	
6. How will the innovation be exploited?	
Introduced as new to the market (commercial exploitation)	x
Only deployed as new to the organisation/company (new internal processes implemented, etc.)	
No exploitation planned	
If 'no exploitation planned' is selected, explain why not:	
NA	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market				
	Done or ongoing	Planned	Not planned but needed or desirable	Not planned and not needed
Technology transfer	x			
A partner's research team and business units are both engaged in activities relating to this innovation	x			
Market study				x
Prototyping in laboratory environment	x			
Prototyping in real world environment				x
Pilot, Demonstration or Testing activities	x			
Feasibility study	x			
Launch a start-up or spin-off				x
Licensing the innovation to a 3rd party				x
Complying with existing standards	x			
Contribution to standards				x
Raise capital				x
Raise funding from public sources				x
Business Plan				x
Other (please specify)				x
If 'Other' is selected, please specify what other steps have been done or planned for this innovation:				
NA				
8. Is there a clear 'owner' of the innovation in the consortium or multiple owners?				
One clear owner				x
Multiple owners				
9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.				
MIGAL.CO				
NA				
NA				
10. Indicate these organisations' needs to fulfil their market potential				
	MIGAL.CO	Organisation 2	Organisation 3	
Investor readiness training		-	-	
Investor introductions		-	-	
Biz plan development		-	-	
Expanding to more markets		-	-	
Legal advice (IPR or other)		-	-	
Mentoring or Coaching		-	-	
Partnership with other SME(s)		-	-	
Partnership with large corporates		-	-	
Incubation/Start-up accelerator		-	-	
Executive Training		-	-	
Other	Supply chain	-	-	

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation be used by mainly current or new customers?	
Current customers	
New customers	x
12. Market maturity: The market targeted by this innovation is ...	
The market is not yet existing, and it is not yet clear that the innovation has potential to create a new market	
Market-creating: The market is not yet existing, but the innovation has clear potential to create a new market	
Emerging: There is a growing demand, and few offerings are available	x
Mature: The market is already supplied with many products of the type proposed	
13. Market dynamics: is the market ... ? (Answer this question only if the answer to the previous question is 'mature')	
In decline	
Holding steady	
Growing	
14. Are there other markets for this innovation that the innovators are not yet targeting?	
Yes	
No	x
15. Market competition: How strong is competition in the target market?	
Patchy, no major players	
Established competition but none with a proposition like the one under investigation	x
Several major players with strong competencies, infrastructure and offerings	
16. When do you expect that such innovation could be commercialised (from today)?	
Less than 1 year	x
Between 1 and 3 years	
Between 3 and 5 years	
Between 5 and 10 years	
More than 10 years	
17. Has a trade mark been registered for this innovation?	
Yes	
No	x
18. Which of the Societal Challenge(s) is/are the innovation relevant to?	
Health, demographic change and wellbeing	
Food security, sustainable agriculture, marine and maritime, Bioeconomy	
Secure, clean and efficient energy	
Smart, green and integrated transport	x
Climate action, environment, resource efficiency and raw materials	
Europe in a changing world - inclusive, innovative and reflective societies	
Secure societies - protecting freedom and security of Europe and its citizens	
Not relevant to any Societal Challenge	
If 'not relevant to any SC is selected' explain why?	

19. Which of the UN Sustainable Development Goals (SDGs) does this innovation contribute to?	
SDG 1 – No Poverty	
SDG 2 – Zero Hunger	
SDG 3 – Good Health and Well-being	
SDG 4 – Quality Education	
SDG 5 – Gender Equality	
SDG 6 – Clean Water and Sanitation	
SDG 7 – Affordable and Clean Energy	
SDG 8 – Decent Work and Economic Growth	
SDG 9 – Industry, Innovation, and Infrastructure	x
SDG 10 – Reducing Inequity	
SDG 11 – Sustainable Cities and Communities	
SDG 12 – Responsible Consumption and Production	x
SDG 13 – Climate Action	
SDG 14 – Life Below Water	
SDG 15 – Life On Land	
SDG 16 – Peace, Justice, and Strong Institutions	
SDG 17 – Partnerships for the Goals	
Not relevant to any SDG	
If 'not relevant to any SDG is selected' explain why?	
20. Does this innovation have a potential to address climate mitigation or climate adaptation?	
Mitigation potential	
Not applicable for this innovation	x
Adaptation potential	

1.2. Innovation 2 – New Optical Fibres

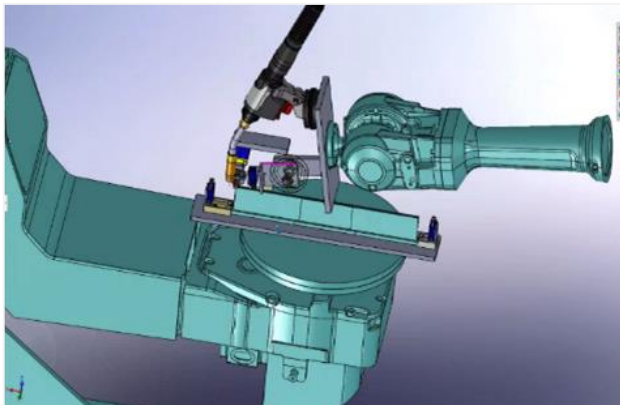
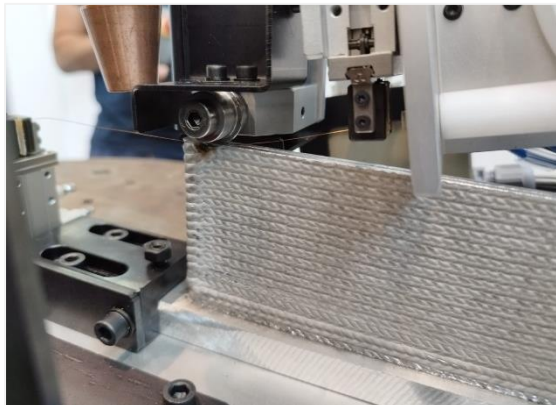
INNOVATION 3	
1. Title of the innovation	
Bimetallic coated optical fibres for WAAM applications	
2. Description of the innovation	
Bimetallic fiber optic coatings dedicated to integration with aluminum. The innovative composition of the layers ensures, on the one hand, excellent adhesion of the coating to the optical fiber, and, on the other hand, good integration with the surrounding metal. An important feature of the developed product is the preservation of optical properties allowing for the implementation of optical distributed measurements after the integration of the optical fiber in the structure.	
3. This innovation is ...	
Under development	
Already developed but not yet being exploited	x
Being exploited	
4. Characterise the type of innovation (choose one only)	
Significantly improved product	
Significantly improved service (except consulting services)	
Significantly improved process	
Significantly improved marketing method	
Significantly improved organisational method	
Consulting services	
New product	x
New service (except consulting services)	
New process	
New marketing method	
New organisational method	
Other	
5. Level of Innovation: What is the level of innovation?	
Some distinct, probably minor, improvements over existing products	
Innovative but could be difficult to convert customers	
Obviously innovative and easily appreciated advantages to customer	x
Very innovative	
6. How will the innovation be exploited?	
Introduced as new to the market (commercial exploitation)	x
Only deployed as new to the organisation/company (new internal processes implemented, etc.)	
No exploitation planned	
If 'no exploitation planned' is selected, explain why not:	
NA	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market				
	Done or ongoing	Planned	Not planned but needed or desirable	Not planned and not needed
Technology transfer	x			
A partner's research team and business units are both engaged in activities relating to this innovation	x			
Market study		x		
Prototyping in laboratory environment	x			
Prototyping in real world environment		x		
Pilot, Demonstration or Testing activities	x			
Feasibility study	x			
Launch a start-up or spin-off				x
Licensing the innovation to a 3rd party				x
Complying with existing standards			x	
Contribution to standards			x	
Raise capital			x	
Raise funding from public sources		x		
Business Plan		x		
Other (please specify)				
If 'Other' is selected, please specify what other steps have been done or planned for this innovation:				
NA				
8. Is there a clear 'owner' of the innovation in the consortium or multiple owners?				
One clear owner				x
Multiple owners				
9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.				
Inphotech				
NA				
NA				
10. Indicate these organisations' needs to fulfil their market potential				
	Inphotech	Organisation 2	Organisation 3	
Investor readiness training		-	-	
Investor introductions	x	-	-	
Biz plan development		-	-	
Expanding to more markets		-	-	
Legal advice (IPR or other)		-	-	
Mentoring or Coaching		-	-	
Partnership with other SME(s)		-	-	
Partnership with large corporates		-	-	
Incubation/Start-up accelerator		-	-	
Executive Training		-	-	
Other	x	-	-	

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation be used by mainly current or new customers?	
Current customers	
New customers	x
12. Market maturity: The market targeted by this innovation is ...	
The market is not yet existing, and it is not yet clear that the innovation has potential to create a new market	x
Market-creating: The market is not yet existing, but the innovation has clear potential to create a new market	
Emerging: There is a growing demand, and few offerings are available	
Mature: The market is already supplied with many products of the type proposed	
13. Market dynamics: is the market ... ? Note: Answer this question only if the answer to the previous question is 'mature'.	
In decline	NA
Holding steady	NA
Growing	NA
14. Are there other markets for this innovation that the innovators are not yet targeting?	
Yes	x
No	
15. Market competition: How strong is competition in the target market?	
Patchy, no major players	x
Established competition but none with a proposition like the one under investigation	
Several major players with strong competencies, infrastructure and offerings	
16. When do you expect that such innovation could be commercialised (from today)?	
Less than 1 year	
Between 1 and 3 years	
Between 3 and 5 years	x
Between 5 and 10 years	
More than 10 years	
17. Has a trade mark been registered for this innovation?	
Yes	
No	x
18. Which of the Societal Challenge(s) is/are the innovation relevant to?	
Health, demographic change and wellbeing	
Food security, sustainable agriculture, marine and maritime, Bioeconomy	
Secure, clean and efficient energy	
Smart, green and integrated transport	x
Climate action, environment, resource efficiency and raw materials	x
Europe in a changing world - inclusive, innovative and reflective societies	
Secure societies - protecting freedom and security of Europe and its citizens	
Not relevant to any Societal Challenge	
If 'not relevant to any SC is selected' explain why?	
NA	

19. Which of the UN Sustainable Development Goals (SDGs) does this innovation contribute to?	
SDG 1 – No Poverty	
SDG 2 – Zero Hunger	
SDG 3 – Good Health and Well-being	
SDG 4 – Quality Education	
SDG 5 – Gender Equality	
SDG 6 – Clean Water and Sanitation	
SDG 7 – Affordable and Clean Energy	
SDG 8 – Decent Work and Economic Growth	
SDG 9 – Industry, Innovation, and Infrastructure	
SDG 10 – Reducing Inequity	
SDG 11 – Sustainable Cities and Communities	
SDG 12 – Responsible Consumption and Production	x
SDG 13 – Climate Action	
SDG 14 – Life Below Water	
SDG 15 – Life On Land	
SDG 16 – Peace, Justice, and Strong Institutions	
SDG 17 – Partnerships for the Goals	
Not relevant to any SDG	
If 'not relevant to any SDG is selected' explain why?	
20. Does this innovation have a potential to address climate mitigation or climate adaptation?	
Mitigation potential	x
Not applicable for this innovation	
Adaptation potential	

1.3. Innovation 3 – Optical Fibre placing robotic system

INNOVATION 3	
1. Title of the innovation	
Optical Fibre (OFs) placing robotic system of WAAM parts powdered with sensing functionality	
2. Description of the innovation	
<p>Device to automatically place OFs inside metallic parts manufactured by DED-Arc process (WAAM). The system enables the introduction of OFs during WAAM following a fibre embedding strategy developed in the project, consisting of a tailored OF design, machining of insertion channels and filling by selected WAAM process parameters. Embedded OF provide a sensing functionality to metallic parts encompassing temperature, distortion and vibration monitoring. Added value of the innovation is related to the enhanced sensing functionality during the manufacturing of the part and its lifetime. This system is part of the multi-robotic WAAM cell concept designed by LORTEK for manufacturing multimaterial and multifunctional components in standalone working cell including arc welding-based deposition, milling and automated OF embedding.</p>	
 	
3. This innovation is ...	
Under development	
Already developed but not yet being exploited	x
Being exploited	
4. Characterise the type of innovation (choose one only)	
Significantly improved product	
Significantly improved service (except consulting services)	
Significantly improved process	x
Significantly improved marketing method	
Significantly improved organisational method	
Consulting services	
New product	
New service (except consulting services)	
New process	
New marketing method	
New organisational method	
Other	
5. Level of Innovation: What is the level of innovation?	
Some distinct, probably minor, improvements over existing products	
Innovative but could be difficult to convert customers	
Obviously innovative and easily appreciated advantages to customer	
Very innovative	x
6. How will the innovation be exploited?	
Introduced as new to the market (commercial exploitation)	x
Only deployed as new to the organisation/company (new internal processes implemented, etc.)	
No exploitation planned	
If 'no exploitation planned' is selected, explain why not:	
NA	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market				
	Done or ongoing	Planned	Not planned but needed or desirable	Not planned and not needed
Technology transfer			x	
A partner's research team and business units are both engaged in activities relating to this innovation		x		
Market study			x	
Prototyping in laboratory environment	x			
Prototyping in real world environment		x		
Pilot, Demonstration or Testing activities	x			
Feasibility study	x			
Launch a start-up or spin-off			x	
Licensing the innovation to a 3rd party			x	
Complying with existing standards			x	
Contribution to standards			x	
Raise capital			x	
Raise funding from public sources			x	
Business Plan			x	
Other (please specify)		x		
If 'Other' is selected, please specify what other steps have been done or planned for this innovation:				
Protection of the intellectual property rights (IPR) of the innovation by filling a patent about the developed concept.				
8. Is there a clear 'owner' of the innovation in the consortium or multiple owners?				
One clear owner				x
Multiple owners				
9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.				
LORTEK S.COOP				
NA				
NA				
10. Indicate these organisations' needs to fulfil their market potential				
	Organisation 1	Organisation 2	Organisation 3	
Investor readiness training	x	-	-	
Investor introductions	x	-	-	
Biz plan development	x	-	-	
Expanding to more markets		-	-	
Legal advice (IPR or other)	x	-	-	
Mentoring or Coaching		-	-	
Partnership with other SME(s)		-	-	
Partnership with large corporates		-	-	
Incubation/Start-up accelerator	x	-	-	
Executive Training		-	-	
Other		-	-	

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation be used by mainly current or new customers?	
Current customers	x
New customers	x
12. Market maturity: The market targeted by this innovation is ...	
The market is not yet existing, and it is not yet clear that the innovation has potential to create a new market	
Market-creating: The market is not yet existing, but the innovation has clear potential to create a new market	
Emerging: There is a growing demand, and few offerings are available	x
Mature: The market is already supplied with many products of the type proposed	
13. Market dynamics: is the market ... ? (Answer this question only if the answer to the previous question is 'mature'.)	
In decline	
Holding steady	
Growing	
14. Are there other markets for this innovation that the innovators are not yet targeting?	
Yes	x
No	
15. Market competition: How strong is competition in the target market?	
Patchy, no major players	x
Established competition but none with a proposition like the one under investigation	
Several major players with strong competencies, infrastructure and offerings	
16. When do you expect that such innovation could be commercialised (from today)?	
Less than 1 year	
Between 1 and 3 years	x
Between 3 and 5 years	
Between 5 and 10 years	
More than 10 years	
17. Has a trade mark been registered for this innovation?	
Yes	
No	x
18. Which of the Societal Challenge(s) is/are the innovation relevant to?	
Health, demographic change and wellbeing	
Food security, sustainable agriculture, marine and maritime, Bioeconomy	
Secure, clean and efficient energy	
Smart, green and integrated transport	x
Climate action, environment, resource efficiency and raw materials	
Europe in a changing world - inclusive, innovative and reflective societies	
Secure societies - protecting freedom and security of Europe and its citizens	
Not relevant to any Societal Challenge	
If 'not relevant to any SC is selected' explain why?	
NA	

19. Which of the UN Sustainable Development Goals (SDGs) does this innovation contribute to?	
SDG 1 – No Poverty	
SDG 2 – Zero Hunger	
SDG 3 – Good Health and Well-being	
SDG 4 – Quality Education	
SDG 5 – Gender Equality	
SDG 6 – Clean Water and Sanitation	
SDG 7 – Affordable and Clean Energy	
SDG 8 – Decent Work and Economic Growth	
SDG 9 – Industry, Innovation, and Infrastructure	x
SDG 10 – Reducing Inequity	
SDG 11 – Sustainable Cities and Communities	
SDG 12 – Responsible Consumption and Production	
SDG 13 – Climate Action	
SDG 14 – Life Below Water	
SDG 15 – Life On Land	
SDG 16 – Peace, Justice, and Strong Institutions	
SDG 17 – Partnerships for the Goals	
Not relevant to any SDG	
If 'not relevant to any SDG is selected' explain why?	
NA	
20. Does this innovation have a potential to address climate mitigation or climate adaptation?	
Mitigation potential	
Not applicable for this innovation	x
Adaptation potential	

1.4. Innovation 4 – Multi-material Add-on Software

INNOVATION 4	
1. Title of the innovation	
Multi-material add-on Software	
2. Description of the innovation	
WAAM Planner with Multi-process support can make the standard DED deposition path planning package capable of incorporating multiple material or multiple processes. By default, it can produce tool path for rolling and peening with custom parameters. The structure of the modules further allows more processes to be introduced with minimal changes to the existing software such as machining or NDT.	
3. This innovation is ...	
Under development	
Already developed but not yet being exploited	x
Being exploited	
4. Characterise the type of innovation (choose one only)	
Significantly improved product	
Significantly improved service (except consulting services)	
Significantly improved process	
Significantly improved marketing method	
Significantly improved organisational method	
Consulting services	
New product	x
New service (except consulting services)	
New process	
New marketing method	
New organisational method	
Other	
5. Level of Innovation: What is the level of innovation?	
Some distinct, probably minor, improvements over existing products	
Innovative but could be difficult to convert customers	
Obviously innovative and easily appreciated advantages to customer	x
Very innovative	
6. How will the innovation be exploited?	
Introduced as new to the market (commercial exploitation)	
Only deployed as new to the organisation/company (new internal processes implemented, etc.)	x
No exploitation planned	
If 'no exploitation planned' is selected, explain why not:	
NA	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market				
	Done or ongoing	Planned	Not planned but needed or desirable	Not planned and not needed
Technology transfer	x			
A partner's research team and business units are both engaged in activities relating to this innovation	x			
Market study	x			
Prototyping in laboratory environment	x			
Prototyping in real world environment	x			
Pilot, Demonstration or Testing activities	x			
Feasibility study	x			
Launch a start-up or spin-off	x			
Licensing the innovation to a 3rd party	x			
Complying with existing standards	x			
Contribution to standards	x			
Raise capital	x			
Raise funding from public sources		x		
Business Plan	x			
Other (please specify)				
If 'Other' is selected, please specify what other steps have been done or planned for this innovation:				
NA				
8. Is there a clear 'owner' of the innovation in the consortium or multiple owners?				
One clear owner				
Multiple owners				x
9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.				
Cranfield University (CU)				
WAAM3D LTD. (W3D)				
-				
10. Indicate these organisations' needs to fulfil their market potential				
	Cranfield University	WAAM3D	Organisation 3	
Investor readiness training	x	x	-	
Investor introductions	x	x	-	
Biz plan development		x	-	
Expanding to more markets		x	-	
Legal advice (IPR or other)		x	-	
Mentoring or Coaching	x	x	-	
Partnership with other SME(s)	x	x	-	
Partnership with large corporates		x	-	
Incubation/Start-up accelerator	x	x	-	
Executive Training			-	
Other			-	

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation be used by mainly current or new customers?	
Current customers	x
New customers	
12. Market maturity: The market targeted by this innovation is ...	
The market is not yet existing, and it is not yet clear that the innovation has potential to create a new market	
Market-creating: The market is not yet existing, but the innovation has clear potential to create a new market	
Emerging: There is a growing demand, and few offerings are available	x
Mature: The market is already supplied with many products of the type proposed	
13. Market dynamics: is the market ... ? (Answer this question only if the answer to the previous question is 'mature'.)	
In decline	
Holding steady	
Growing	
14. Are there other markets for this innovation that the innovators are not yet targeting?	
Yes	x
No	
15. Market competition: How strong is competition in the target market?	
Patchy, no major players	
Established competition but none with a proposition like the one under investigation	x
Several major players with strong competencies, infrastructure and offerings	
16. When do you expect that such innovation could be commercialised (from today)?	
Less than 1 year	
Between 1 and 3 years	x
Between 3 and 5 years	
Between 5 and 10 years	
More than 10 years	
17. Has a trade mark been registered for this innovation?	
Yes	x
No	
18. Which of the Societal Challenge(s) is/are the innovation relevant to?	
Health, demographic change and wellbeing	
Food security, sustainable agriculture, marine and maritime, Bioeconomy	
Secure, clean and efficient energy	
Smart, green and integrated transport	
Climate action, environment, resource efficiency and raw materials	
Europe in a changing world - inclusive, innovative and reflective societies	
Secure societies - protecting freedom and security of Europe and its citizens	
Not relevant to any Societal Challenge	x
If 'not relevant to any SC is selected' explain why?	
NA	

19. Which of the UN Sustainable Development Goals (SDGs) does this innovation contribute to?	
SDG 1 – No Poverty	
SDG 2 – Zero Hunger	
SDG 3 – Good Health and Well-being	
SDG 4 – Quality Education	
SDG 5 – Gender Equality	
SDG 6 – Clean Water and Sanitation	
SDG 7 – Affordable and Clean Energy	
SDG 8 – Decent Work and Economic Growth	
SDG 9 – Industry, Innovation, and Infrastructure	x
SDG 10 – Reducing Inequity	
SDG 11 – Sustainable Cities and Communities	
SDG 12 – Responsible Consumption and Production	
SDG 13 – Climate Action	
SDG 14 – Life Below Water	
SDG 15 – Life On Land	
SDG 16 – Peace, Justice, and Strong Institutions	
SDG 17 – Partnerships for the Goals	
Not relevant to any SDG	
If 'not relevant to any SDG is selected' explain why?	
NA	
20. Does this innovation have a potential to address climate mitigation or climate adaptation?	
Mitigation potential	x
Not applicable for this innovation	
Adaptation potential	

2. General Questions

How do you consider the project's performance in terms of innovation?					
Performing below my expectations					
Meeting my expectations					
Exceeding my expectations					x
Highly exceeding my expectations					
Does the innovator engage end-users' organisations?					YES
If 'Yes' to previous question, are the end-users in the consortium?					YES
If 'Yes' to previous question; please indicate which project participant(s) are end-users and what is their key contribution					
	Providing ideas	Testing	Validation	Deployment	Not an end- user
RUAG		x	x		
Aerotecnic		x	x		
EDAG		x	x		
ALUWAG		x	x		
PEAK		x	x		
AVL		x	x		
If 'No' to previous, please indicate which types of organisations outside the consortium are engaged with and what is their key input as user?					
	Providing ideas	Testing	Validation	Deployment	Not consulted
Potential procurer of innovation (Public sector)	NA				
Potential procurer of innovation (Private sector)	NA				
Citizen Group	NA				
NGO	NA				
Regulator	NA				
Policy Maker	NA				
Other	NA				
IPR & exploitation					
Are there IPR issues within the consortium that could compromise the ability of the organisation(s) to exploit new products/solutions/services, internally or in the market place?					No
Which are the external bottlenecks that compromise the ability of project partners to exploit new products, solutions or services, internally or in the market place?					
Regulation					
Skills in the wider workforce					x
Standards					x
Financing					
Trade issues (between MS, globally)					
IPR					
Others					
Indicate how many patents have been applied for by the project:					2
How would you rate the level of commitment of relevant organisation(s) to exploit the innovation?					
Very low					
Low					
Average					
High					
Very High					x
Please indicate the one participant (excluding large enterprises) that the panel considers to be the most impressive in terms of innovation potential within the context of the innovations identified					
WAAM3D					

Please provide concrete recommendations for the project to improve its innovations and their potential to deliver impact in - or close to - the marketplace.

1. Deliver innovations that answer the market and industrial needs.
2. Accompany the innovation development with complementary activities to ensure market uptake, such as training and standardisation
3. Create structures to coordinate market implementation

Hypothetically but honestly, would you invest your own money in any innovation developed by this project?	Yes
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Please indicate the participant(s) from which a woman is in a position of leadership (such as *Principal Investigator / Work Package Leader*) for this project:

- Cranfield University – Jialuo Ding (Principal Investigator)
- BCM – Raquel Gonzalez (Principal Investigator)
- ISQ – Carla Martins (WP1 leader)
- EWF – Rita Bola (WP6 leader)