INNOVATION RADAR QUESTIONNAIRE

(To be filled in by the Coordinator and submitted via the Communication Centre in the Funding & Tenders Portal.)

PROJECT	
Project number:	825184
Project name:	Serverless Data Analytics Platform
Project acronym:	CloudButton

1. INNOVATIONS

SUMMARY OF PROJECT INNOVATIONS *(mandatory)* *Please see the instructions below regarding good vs. poor innovation titles.*	
1	Lightweight optimized Python framework for serverless computing platforms (Lithops)
	Lithops is a framework to massively scale the execution of Python code and its dependencies on serverless computing platforms and monitor the results. Lithops delivers the user's code into the serverless platform without requiring knowledge of how functions are invoked and run. Lithops provides great value for a variety of use cases, like processing data in object storage, running embarrassingly parallel compute jobs (e.g. Monte-Carlo simulations), and enriching data with additional attributes. Lithops is being used in real settings to parallelize the execution of Big Data analytics processes over OMICS and geospatial data in the Cloud.
2	Anchored keys: Horizontal scaling without state transfer for the Infinispan in-memory data grid
	Infinispan is an in-memory data grid which can be scaled horizontally by provisioning additional storage nodes. For high-availability and balancing purposes, adding new nodes to a cluster has always required moving data around to ensure the required number of copies of each item, thus temporarily decreasing throughput until the state transfer is complete. Anchored keys is an alternative implementation which avoids costly state transfer when adding new nodes so that throughput is maintained.
3	Serverless version of METASPACE, cloud platform for spatial metabolomics
	METASPACE is an open-source cloud software for spatial metabolomics (an emerging field of research and technology focused on small molecules, metabolites, drugs, and lipids). EMBL has developed a serverless version of METASPACE that uses a novel type of cloud computing, namely "serverless computing" to execute METASPACE without installation, with minimal infrastructure maintenance effort and development pain, yet with almost unlimited scalability.
4	WebAssembly runtime for Cloud-based serverless applications (Faasm)
	Faasm is a runtime that can run WebAssembly application components in a serverless cloud context, acting as an execution mechanism for functions in function-as-a-service environments. Compared to existing execution engines, which are container-based, Faasm provides higher efficiency by allowing a high density of isolated functions to run on the same hardware. In addition, Faasm avoids the cold-start problem, and enables functions to efficiently share state without serialization overheads.

1.1. Innovation 1

INNOVATION 1 *(optional)*

1. Title of the innovation

Please enter a meaningful innovation title (between 20 and 200 characters, spaces included).

This field will be revealed to the public on the Innovation Radar platform / mobile app.

Tip: *This field is key and needs to be strong and clear. If possible, use a '**for'** clause.*

*Examples of **poor versus good innovation titles**:*

'Laser Design Platform' (poor) vs 'Improved semiconductor laser design platform for RWG (Ridge Wave Guide) laser"(good)

*'Novel Robot Arm' (poor) vs 'Dextrous robotic slave arm **for** high radiation environments' (good)*

*'Biosensors for diagnosis' (poor) vs 'Biosensors capable of breath and saliva monitoring **for** heart failure diagnosis' (good)*

Lightweight optimized Python framework for serverless computing platforms (Lithops)

2. Description of the innovation

Please describe the innovation. Use less than 500 characters, spaces included.

*This field will **NOT** be revealed to the public on the Innovation Radar platform / mobile app*

Lithops is a framework to massively scale the execution of Python code and its dependencies on serverless computing platforms and monitor the results. Lithops delivers the user's code into the serverless platform without requiring knowledge of how functions are invoked and run. Lithops provides great value for a variety of use cases, like processing data in object storage, running embarrassingly parallel compute jobs (e.g. Monte-Carlo simulations), and enriching data with additional attributes.Lithops also offers advanced data management and partitioning algorithms for unstructured data types in genomics, metabolomics and geospatial data.

The major innovation of Lithops is to enable us to efficiently parallelize and move single-machine data processing algorithms to the Cloud in an efficient way. Lithops boosts performance by parallelizing I/O to Cloud Object Storage and by leveraging parallel compute resources in the Cloud. Lithops is now being used to move different algorithms analyzing genomics and metabolomics data to the Cloud. A startup is being created to exploit those algorithms.

3. This innovation is ...

Under development	
Already developed but not yet being exploited	
Being exploited	X

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? *(choose one only)*	
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? *(choose one only)*	
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:	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market

Answer the following grid only if the answer to the previous question is 'Introduced as new to the market' (choose only one answer per row)

	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:				

8. Is there a clear 'owner' of the innovation in the consortium or multiple owners?

Only for multi-beneficiary projects

One clear owner	
Multiple owners	X

9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.

Universitat Rovira i Virgili (URV)

IBM

10. Indicate these organisations' needs to fulfil their market potential

	URV	IBM	
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/Startup accelerator			
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 ... *(choose one only)*	
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	X
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	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	X

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	
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	X
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?	

20. Does this innovation have a potential to address climate mitigation or climate adaptation? *Climate mitigation potential: The innovation addresses the causes of climate change (i.e. it can reduce and curb greenhouse gas emissions)* *Climate adaptation potential: The innovation can reduce vulnerability to the harmful effects of climate change*	
Mitigation potential	
Not applicable for this innovation	X
Adaptation potential	

1.2. Innovation 2

INNOVATION 2 *(optional)*	
1. Title of the innovation *Please enter a meaningful innovation title (between 20 and 200 characters, spaces included).* *This field will be revealed to the public on the Innovation Radar platform / mobile app.* ***Tip:** This field is key and needs to be strong and clear. If possible, use a '**for**' clause.* *Examples of **poor versus good innovation titles**:* *'Laser Design Platform' (poor) vs 'Improved semiconductor laser design platform for RWG (Ridge Wave Guide) laser''(good)* *'Novel Robot Arm' (poor) vs 'Dextrous robotic slave arm **for** high radiation environments' (good)* *'Biosensors for diagnosis' (poor) vs 'Biosensors capable of breath and saliva monitoring **for** heart failure diagnosis' (good)*	
Anchored keys: Horizontal scaling without state transfer for the Infinispan in-memory data grid	
2. Description of the innovation *Please describe the innovation. Use less than 500 characters, spaces included.* *This field will **NOT** be revealed to the public on the Innovation Radar platform / mobile app*	
Infinispan is an in-memory data grid which can be scaled horizontally by provisioning additional storage nodes. For high-availability and balancing purposes, adding new nodes to a cluster has always required moving data around to ensure the required number of copies of each item, thus temporarily decreasing throughput until the state transfer is complete. Anchored keys is an alternative implementation which avoids costly state transfer when adding new nodes so that throughput is maintained.	
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	X
Significantly improved service (except consulting services)	

Significantly improved process	
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? *(choose one only)*	
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? *(choose one only)*	
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:	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market

Answer the following grid only if the answer to the previous question is 'Introduced as new to the market' (choose only one answer per row)

	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:				

8. Is there a clear 'owner' of the innovation in the consortium or multiple owners? *Only for multi-beneficiary projects*	
One clear owner	X
Multiple owners	

9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.
Red Hat

10. Indicate these organisations' needs to fulfil their market potential			
	Red Hat		
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/Startup accelerator			
Executive Training			
Other			

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation will be used by mainly current or new customers?	
Current customers	
New customers	X

12. Market maturity: The market targeted by this innovation is ... *(choose one only)*	
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	
Mature: The market is already supplied with many products of the type proposed	X

13. Market dynamics: is the market ... ? *Answer this question only if the answer to the previous question is 'mature'.*	
In decline	
Holding steady	
Growing	X

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	
Several major players with strong competencies, infrastructure and offerings	X

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	
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?	

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	
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	X
If 'not relevant to any SDG is selected' explain why?	
20. Does this innovation have a potential to address climate mitigation or climate adaptation? *Climate mitigation potential: The innovation addresses the causes of climate change (i.e. it can reduce and curb greenhouse gas emissions)* *Climate adaptation potential: The innovation can reduce vulnerability to the harmful effects of climate change*	
Mitigation potential	
Not applicable for this innovation	X
Adaptation potential	

1.3. Innovation 3

INNOVATION 3 *(optional)*	
1. Title of the innovation *Please enter a meaningful innovation title (between 20 and 200 characters, spaces included).* *This field will be revealed to the public on the Innovation Radar platform / mobile app.* ***Tip:** This field is key and needs to be strong and clear. If possible, use a '**for**' clause.* *Examples of **poor versus good innovation titles**:* *'Laser Design Platform' (poor) vs 'Improved semiconductor laser design platform for RWG (Ridge Wave Guide) laser''(good)* *'Novel Robot Arm' (poor) vs 'Dextrous robotic slave arm **for** high radiation environments' (good)* *'Biosensors for diagnosis' (poor) vs 'Biosensors capable of breath and saliva monitoring **for** heart failure diagnosis' (good)*	
Serverless version of METASPACE, cloud platform for spatial metabolomics	
2. Description of the innovation *Please describe the innovation. Use less than 500 characters, spaces included.* *This field will **NOT** be revealed to the public on the Innovation Radar platform / mobile app*	
METASPACE is an open-source cloud software for spatial metabolomics (an emerging field of research and technology focused on small molecules, metabolites, drugs, and lipids). EMBL has developed a serverless version of METASPACE that uses a novel type of cloud computing, namely "serverless computing" to execute METASPACE without installation, with minimal infrastructure maintenance effort and development pain, yet with almost unlimited scalability.	
3. This innovation is ...	
Under development	

Already developed but not yet being exploited	
Being exploited	X
4. Characterise the type of innovation *(choose one only)*	
Significantly improved product	X
Significantly improved service (except consulting services)	
Significantly improved process	
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? *(choose one only)*	
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? *(choose one only)*	
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:	
The new version of METASPACE is already deployed on the cloud and is available to 1000+ users online: http://metaspace2020.eu	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market

Answer the following grid only if the answer to the previous question is 'Introduced as new to the market' *(choose only one answer per row)*

	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				
Prototyping in laboratory environment				
Prototyping in real world environment				
Pilot, Demonstration or Testing activities				
Feasibility study				
Launch a start-up or spin-off				
Licensing the innovation to a 3rd party				
Complying with existing standards		X		
Contribution to standards	X			
Raise capital				
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:				

8. Is there a clear 'owner' of the innovation in the consortium or multiple owners? *Only for multi-beneficiary projects*	
One clear owner	X
Multiple owners	

9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.
European Molecular Biology Laboratory (EMBL)

10. Indicate these organisations' needs to fulfil their market potential			
	EMBL		
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/Startup accelerator	X		
Executive Training			
Other			

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation will be used by mainly current or new customers?	
Current customers	X
New customers	X

12. Market maturity: The market targeted by this innovation is ... *(choose one only)*	
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	X

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	X
Food security, sustainable agriculture, marine and maritime, Bioeconomy	X
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	
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	X
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	
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? *Climate mitigation potential: The innovation addresses the causes of climate change (i.e. it can reduce and curb greenhouse gas emissions)* *Climate adaptation potential: The innovation can reduce vulnerability to the harmful effects of climate change*	
Mitigation potential	
Not applicable for this innovation	X
Adaptation potential	

1.4. Innovation 4

INNOVATION 4 *(optional)*
1. Title of the innovation *Please enter a meaningful innovation title (between 20 and 200 characters, spaces included).* *This field will be revealed to the public on the Innovation Radar platform / mobile app.* ***Tip:** This field is key and needs to be strong and clear. If possible, use a **'for'** clause.* *Examples of **poor versus good innovation titles**:* *'Laser Design Platform' (poor) vs 'Improved semiconductor laser design platform for RWG (Ridge Wave Guide) laser''(good)* *'Novel Robot Arm' (poor) vs 'Dextrous robotic slave arm **for** high radiation environments' (good)* *'Biosensors for diagnosis' (poor) vs 'Biosensors capable of breath and saliva monitoring **for** heart failure diagnosis' (good)*
WebAssembly runtime for Cloud-based serverless applications (Faasm)
2. Description of the innovation *Please describe the innovation. Use less than 500 characters, spaces included.* *This field will **NOT** be revealed to the public on the Innovation Radar platform / mobile app*
Faasm is a runtime that can run WebAssembly application components in a serverless cloud context, acting as an execution mechanism for functions in function-as-a-service environments. Compared to

existing execution engines, which are container-based, Faasm provides higher efficiency by allowing a high density of isolated functions to run on the same hardware. In addition, Faasm avoids the cold-start problem, and enables functions to efficiently share state without serialization overheads.	
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	X
Significantly improved service (except consulting services)	
Significantly improved process	
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? *(choose one only)*	
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? *(choose one only)*	
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:	

7. Indicate the step(s) in order to bring the innovation to (or closer to) the market

Answer the following grid only if the answer to the previous question is 'Introduced as new to the market' (choose only one answer per row)

	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:

8. Is there a clear 'owner' of the innovation in the consortium or multiple owners?

Only for multi-beneficiary projects

One clear owner	X
Multiple owners	

9. Indicate (up to a maximum of 3) key organisation(s) delivering this innovation.

Imperial College London

10. Indicate these organisations' needs to fulfil their market potential			
	Imperial		
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/Startup accelerator	X		
Executive Training			
Other			

11. For the private company/companies chosen as one of the 3 'key innovators', will this innovation will be used by mainly current or new customers?	
Current customers	
New customers	X

12. Market maturity: The market targeted by this innovation is ... *(choose one only)*	
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	
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?	
Cloud computing underpins the infrastructure for work across all of these challenges	
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	
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	X
If 'not relevant to any SDG is selected' explain why?	
Cloud computing provides the core infrastructure to reach the majority of these development goals.	
20. Does this innovation have a potential to address climate mitigation or climate adaptation? *Climate mitigation potential: The innovation addresses the causes of climate change (i.e. it can reduce and curb greenhouse gas emissions)* *Climate adaptation potential: The innovation can reduce vulnerability to the harmful effects of climate change*	
Mitigation potential	X
Not applicable for this innovation	
Adaptation potential	

GENERAL QUESTIONS *(optional)*

How do you consider the project's performance in terms of innovation?	
Performing below my expectations	
Meeting my expectations	
Exceeding my expectations	
Highly exceeding my expectations	X
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
URV		X	X		
IBM			X		
EMBL				X	
JHI	X	X	X		
If 'No' to previous, Please indicate which types of organisation 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)					
Potential procurer of innovation (Private sector)					
Citizen Group					
NGO					
Regulator					
Policy Maker					
Other					

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	
Financing	X
Trade issues (between MS, globally)	
IPR	
Others	
Indicate how many patents have been applied for by the project:	0
How would you rate the level of commitment of relevant organisation(s) to exploit the innovation?	
Very low	

Low	
Average	
High	X
Very High	
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	
EMBL METASPACE	
Please provide concrete recommendations for the project to improve its innovations and their potential to deliver impact in - or close to - the market place.	
Increased funding, key commercial contacts and networking opportunities could increase the impact of project results	
Hypothetically but honestly, would you invest your own money in any innovation developed by this project?	Yes
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:	
ATOS	

HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
1.0	03.05.2021	Initial version.
2.0	15.06.2021	Alignment with some fields in SyGMa.