



This project is co-financed by the
European Union and the Republic of Turkey
Bu proje Avrupa Birliđi ve Türkiye Cumhuriyeti tarafından
finanse edilmektedir



Technical Assistance for Turkey in Horizon 2020 Phase-II
EuropeAid/139098/IH/SER/TR

Turkey in Horizon 2020 II

Horizon 2020 SME Instrument (EIC Accelerator) –
Project Writing Training for SMEs
Section 1: Excellence

Grigoris Chatzikostas

Training Coordinator



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



EIC Accelerator Pilot – Proposal template

Document 1 - Proposal template

Summary

1. Excellence

- Idea and solution
- Innovativeness
- Stage of development

2. Impact

- Market and customers
- Commercialisation strategy
- External Strategic Partners
- Intellectual property
- Scale up potential
- Key Performance Indicators
- Broader impact

3. Implementation

- Team and capabilities
- Financing needs
- Equity (if blended finance requested)
- Need for EIC support
- Risks
- Approach
- Work packages, deliverables, milestones
- Resources

Document 2 - Annex 1 – 3

- Annex 1 – Security and Ethics;
- Annex 2 – CVs
- Annex 3 –Others

Documents 4 and 5

Annex 4 – Financial and corporate information Excel file

Annex 5 – Pitch-deck

INTRODUCTION

Describe your innovation **in no more than 200 words**, avoiding jargon or technical language.

Briefly explain, **in no more than 200 words**, how your innovation relates to the overall strategy of your company.



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



COMPETITIVE
SECTORS
PROGRAMME



TÜBİTAK

IDEA AND SOLUTION:

Innovation in detail

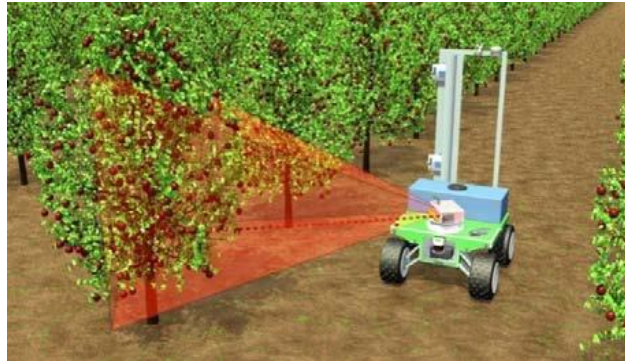
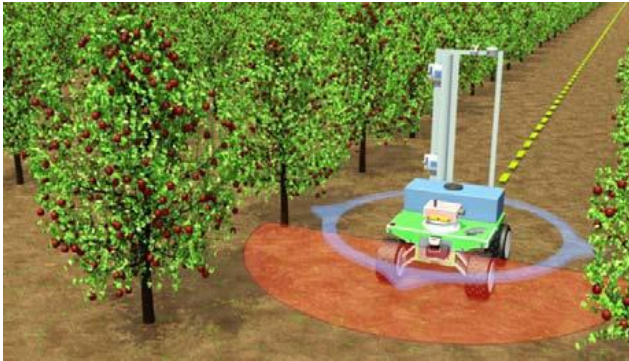
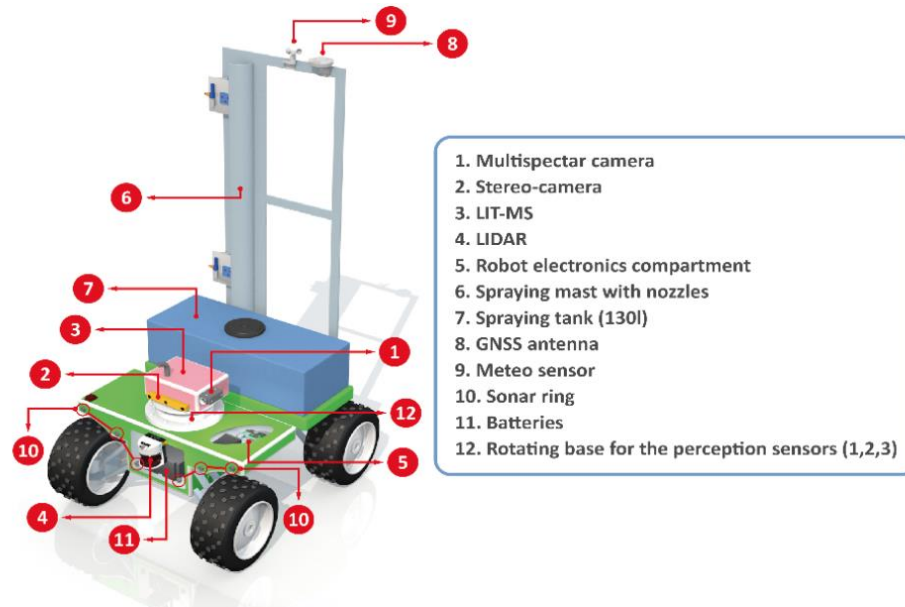
What are the objectives

What are the challenges or problems
– business, technological or societal
(climate change, environment, gender
dimension, etc.) - that you seek to
address by bringing your innovation to
market.

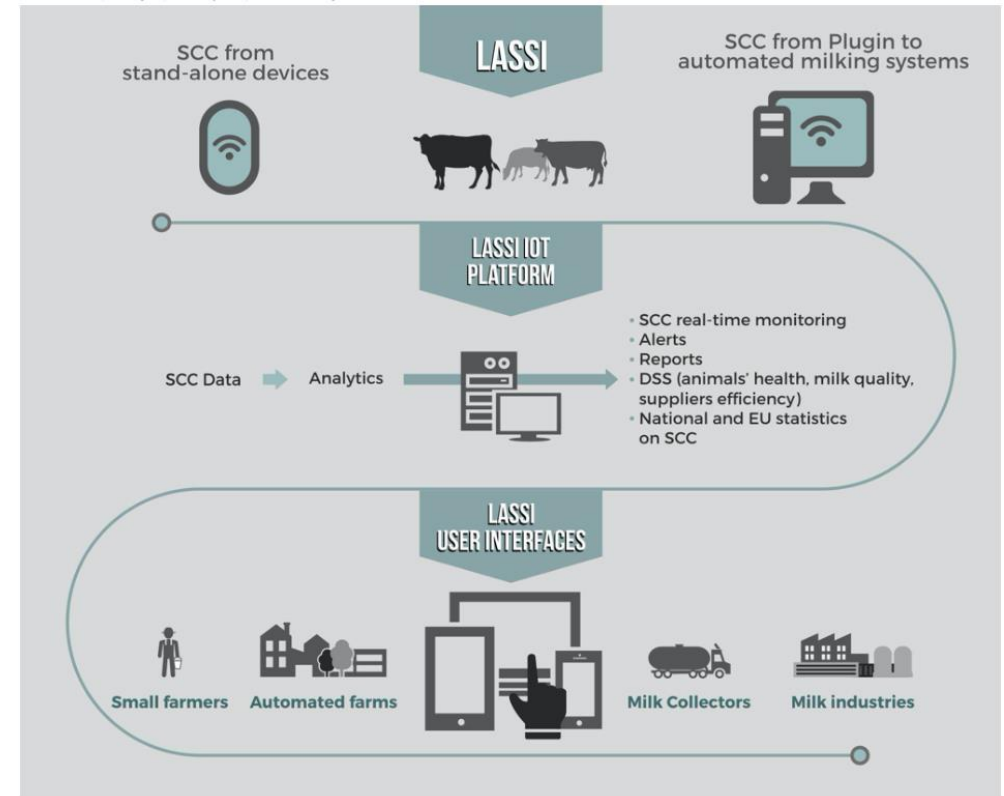
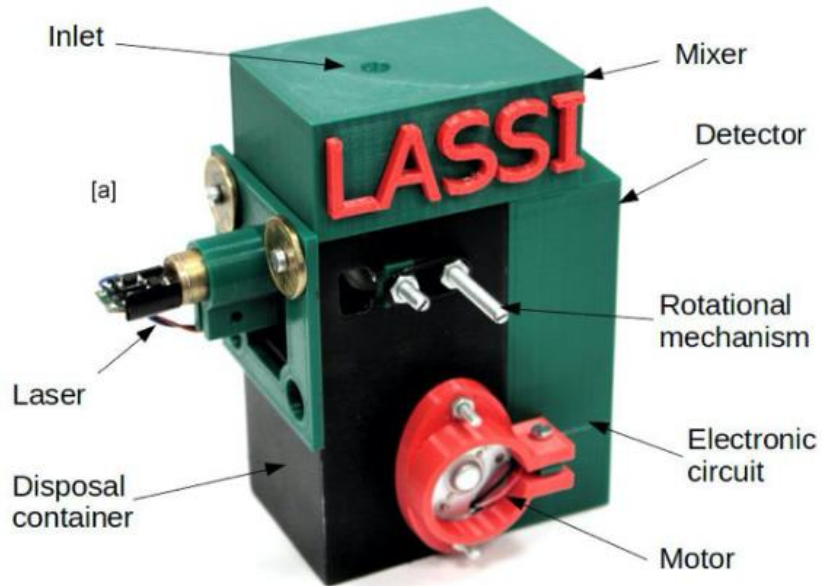
**SELL
THE PROBLEM
YOU SOLVE,
NOT
THE
PRODUCT.**



INNOVATION IN DETAIL



INNOVATION IN DETAIL



OBJECTIVES

Your objectives **MUST** be in line with call objectives!

- ✓ How will you verify that each objective has been met?
- ✓ What measures will be used?
- ✓ How does each objective relate to the call?

Make clear clasification (if aplicable)

- ✓ Industrial objectives
- ✓ Economic objectives
- ✓ Social objectives

For each objective also record:

- ✓ Relationship to the call: **Achievable**
- ✓ Critical assumptions:
- ✓ (Timescales will be added later): **Time bound**

OBJECTIVES

GO

The general objective of the project is to transform the existing Somatic Cell Counter prototype (TRL 6), based on flow cytometry coupled with fluorescence techniques, to a market-ready comprehensive solution (TRL 9) providing analysis, monitoring, and reporting on animal health and milk quality to dairy farmers and the dairy industry.

The starting point for the project is the prototype of a Somatic Cell Counter based on fluorescent flow cytometry, which has been tested in the lab and in a real world environment, with excellent performance in both cases. Based on this, two pre-production prototypes will be developed (the **LASSI Somatic Cell Counter devices**: a stand-alone device and a unit that will be integrated in Automatic Milking Systems). The devices will be bundled with an Internet of Things (IoT) platform (the **LASSI platform**) into the **LASSI solution**, which will provide services such as analysis, monitoring, and reporting on animal health and milk quality. The LASSI solution will provide **dairy farmers** with a Decision Support System (DSS) on animals' health, reports on animals' health history and milk quality logs, enabling them to rapidly diagnose mastitis by knowing the somatic cell count on individual cows, and save costs. The **dairy industry** will use the LASSI solution for determining remotely SCC on bulk milk quantities before loading it for transport, and for monitoring the quality of farms they cooperate with.

The specific objectives of the project are:

O1

Advanced and specific development that will evolve the existing prototype to two separate pre-production prototypes:

- *Stand-alone, portable, handheld SC Counter;*
- *Live measurement unit to be integrated into the milking system.*

Based on the core device, **two pre-production prototypes** will be developed. The **handheld** device targets the issue of bulk milk quality control at the time of milk purchase from farmers. The **live measurement unit** will be developed to be integrated into Automatic Milking Systems (AMS), allowing continuous monitoring of SCC at the time of milking. The advanced development will include perfection of various system parts: lens, detector, rotational mechanism, and cleaning mechanism, in order to further improve the SC Counter's performance. Furthermore, it will include the design of the housing for both devices, and the implementation of the automatic sampling system for the automatic SC Counter.

Objective	Key Performance Indicators (KPIs)	Target values
O1: Prototype Development	Time to design and integrate the industrial prototype of the handheld device	6 months
	Time to design and integrate the industrial prototype of the automatic device	6 months
	Improvement of the accuracy of the device	±7%
O2: Solution Development	User interfaces meet usability needs of the users	85%
	Acceptance of the proposed services by users	90%
O3: Validation	No. of full systems for milk quality control installed	1
	Number of full systems for cow health control installed	1
	Success rate of the performed system validation tests	90%



THE PROBLEM

QF4 Please tell me to what extent you are worried or not about the following issues.
 Answer: Total 'Worried'
 "Higher levels of Worry"

High levels of Worry





























Pesticide residues in fruit, vegetables or cereals			Residues like antibiotics or hormones in meat		Pollutants like mercury in fish and dioxins in pork		Cloning animals for food products	
 EU27	72%		 EU27	70%	 EU27	69%	 EU27	65%
 EL	91%		 CY	92%	 CY	85%	 EL	76%
 CY	90%		 EL	87%	 IT	83%	 IT	75%
 LT	88%		 LT	84%	 LT	82%	 LU	75%
...			
 SE	59%		 UK	53%	 NL	57%	 EE	48%
 NL	53%		 SE	50%	 UK	51%	 IE	48%
 UK	53%		 FI	48%	 SE	46%	 MT	48%

Figure 1: Pesticide residues – The major food-related concern of European citizens (Source: Eurobarometer 354)

The Big Picture

- 1) Population growth
- 2) Shifting economic power
- 3) Environmental concerns



... BUT STILL



We use protein for	If we don't replace it = deficiency symptoms
<ul style="list-style-type: none">• Bone, muscle, skin, organs, hormones, enzymes• Brain chemistry - cognition and mood• We need protein approximately every 3-4 hours to stimulate the thyroid and to balance blood sugar levels• Metabolism• Specific amino acid functions	<ul style="list-style-type: none">• Loss structures e.g. skeletal muscle• Brain chemistry imbalance• Fatigue, loss energy• Slower metabolism, weight loss or gain• Mood imbalance• Cognitive dysfunction (ie. reduced focus, memory)

THE ALTERNATIVE PROTEINS CONCEPT



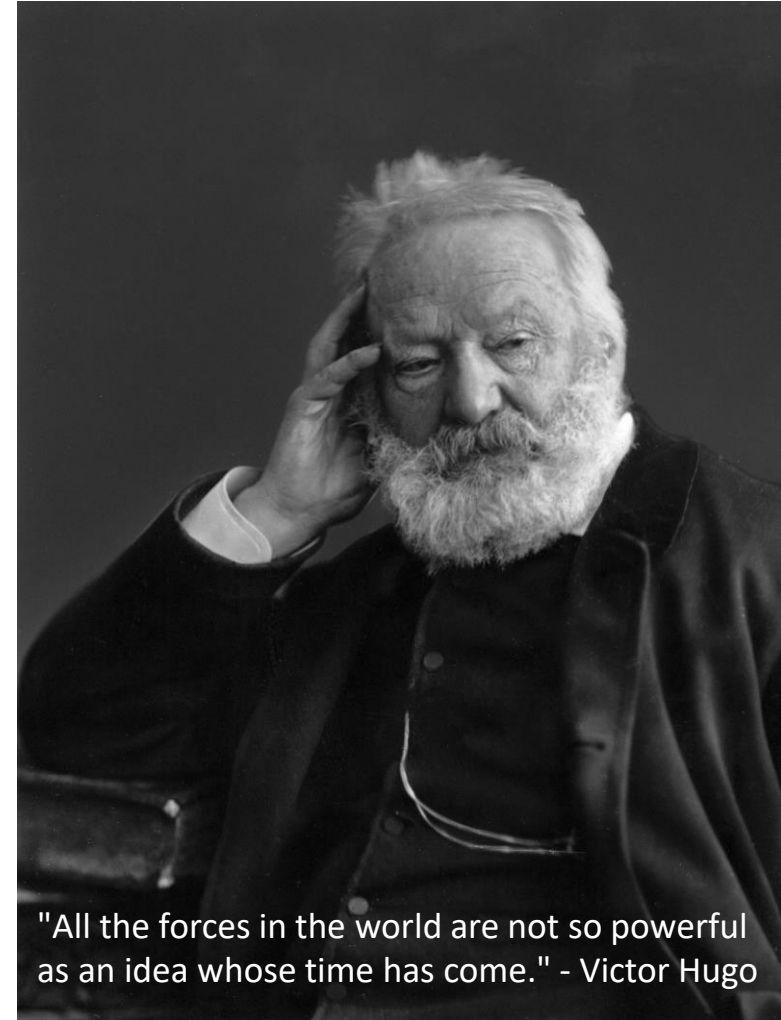
Types are classified based on sources: Insect based, Plant based, Lab grown meat



INNOVATIVENESS

How is your innovation better or significantly different than other existing alternatives?

Why is the timing right for your innovation?



"All the forces in the world are not so powerful as an idea whose time has come." - Victor Hugo



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



COMPARISON TO EXISTING ALTERNATIVES

Table 6: Technical characteristics of the competitive solutions

	Test tape method (Porta SCC)	California Mastitis Test (CMT) (Ekomilk SCAN)	Automatic counting based on image cytometry technology (DeLaval Cell Counter)	Automatic counting based on flow cytometry technology (Fossomatic™ FC)	LASSI
Measuring speed	45 min for regular, and 5 min for quick test	4 min/measurement		200, 300, 400, 500 or 600 samples/hr	100,000 to 1,000,000 somatic cells per ml in laboratory conditions in less than 60 seconds
Measuring range	100.000 – 3.000.000 somatic cells/ml	90.000 – 1.500.000	10.000 to 4.000.000 somatic cells/ml	0 – 10 mill cells/ml	100,000 to 1,000,000 somatic cells per ml
Sample intake	2 ml	10 ml	Approx 60 µl in the cassette / Measuring volume: Approx 1 µl	2.5 ml (programmable 2.0 – 5.0 ml)	2 ml
Required sample temperature	0 - 8°C	15° - 30°C	10° - 40°C	30 - 42 °C	15 – 25 °C
Sample types	Bulk tank or individual sample	Bulk tank or individual sample		Cow's, goat's, sheep's milk and other	Any type of milk, bulk or individual animal.
Dimensions (HxWxD)		20 x 26 x 29 cm	23,5 x 23,6 x 24,9 cm	63 x 85 x 68 cm	10 x 10 x 5 cm
Weight	Digital reader ~ 200 g Tapes – N/A	< 4,5 kg	4.1 kg	100 kg	<1kg
Power supply	N/A - manual	AC Power Supply voltage 220V +10%/-15% / DC Power Supply voltage 12V to 14,2V		100 - 240 VAC, 50/60 Hz	12V DC power supply
Portable	Yes - handheld	Yes - tabletop	Yes – tabletop	No	Yes - handheld
Customers	Dairy farmers & milk industry companies	Dairy farmers & milk industry companies	Small milk laboratories and dairy farmers	Laboratories	Dairy farmers & milk industry companies
User level	Non-expert	Non-expert	Non-expert	Expert	Non-expert
Price range	<100 €	1 – 3 k €	<10 k €	> 10 k €	250 €

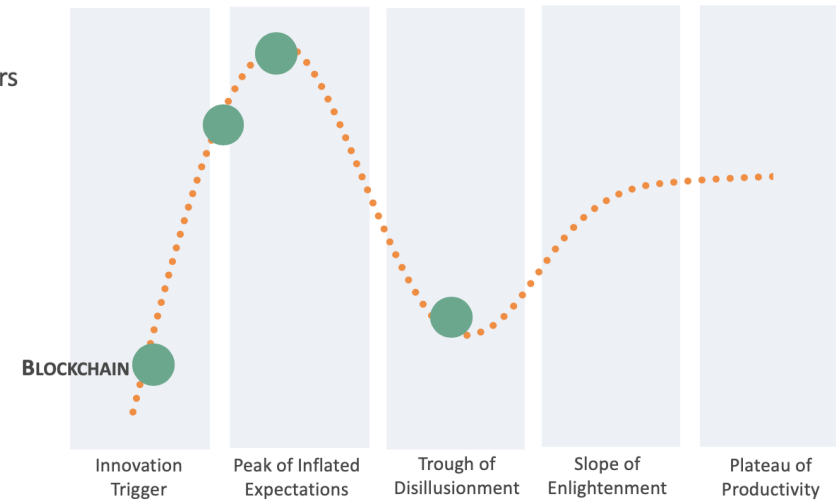
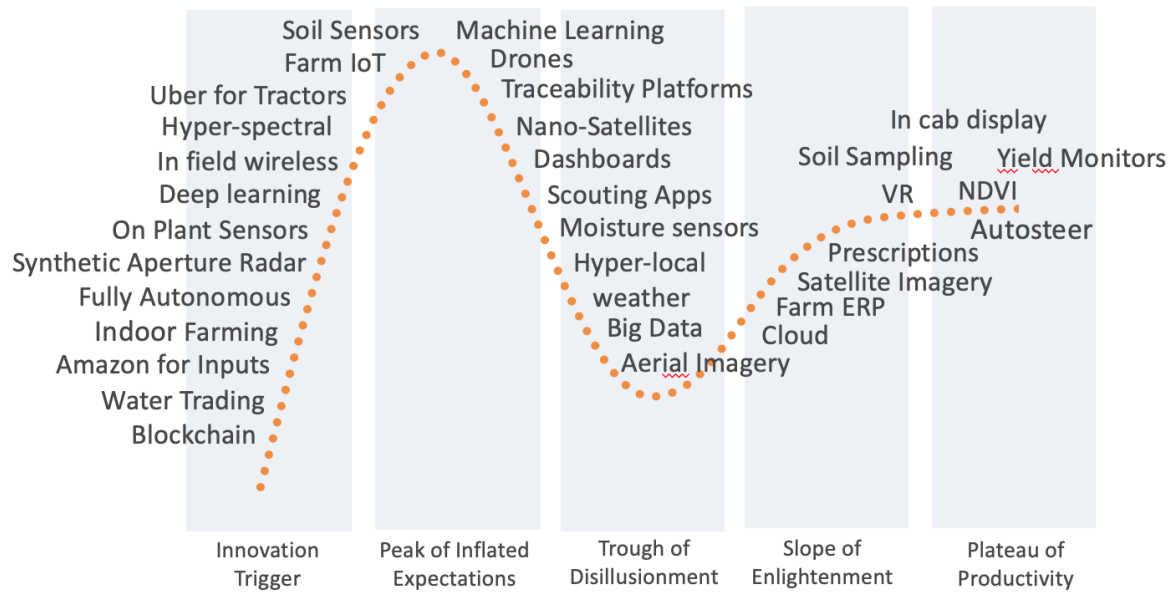


TIMING: HYPE CYCLES

- **Innovation Trigger:** A potential technology breakthrough kicks things off. **Early proof-of-concept stories** and media interest trigger significant publicity. Often **no usable products exist** and **commercial viability is unproven**.
- **Peak of Inflated Expectations:** Early publicity produces a **number of success stories** — often accompanied by scores of failures. Some companies take action; many do not.
- **Trough of Disillusionment:** Interest wanes as experiments and implementations **fail to deliver**. Producers of the technology shake out or fail. Investments continue only if the surviving providers improve their products to the satisfaction of early adopters.
- **Slope of Enlightenment:** More instances of how the technology can benefit the enterprise start to crystallize and become **more widely understood**. Second- and third-generation products appear from technology providers. More enterprises fund pilots; conservative companies remain cautious.
- **Plateau of Productivity:** Mainstream adoption starts to take off. **Criteria for assessing provider viability** are more clearly defined. The technology's **broad market applicability and relevance** are clearly paying off.



TIMING: HYPE CYCLES

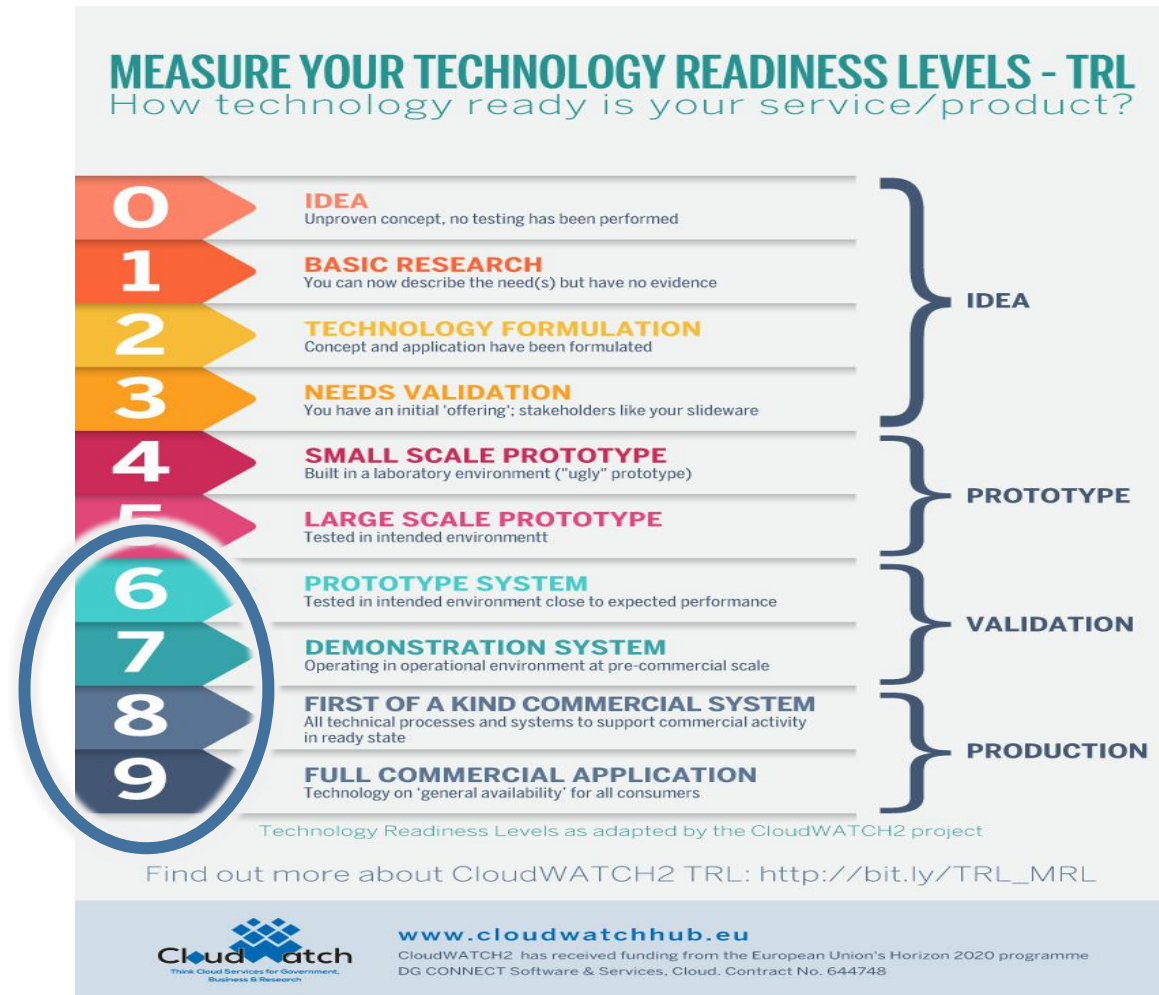


STAGE OF DEVELOPMENT:

Current stage of development)
Technology Readiness Levels),

Activities and results achieved
so far.

Next steps planned to take this
innovation to the market?



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



COMPETITIVE
AND INNOVATIVE
PROGRAMME



TÜBİTAK

CURRENT STAGE OF DEVELOPMENT

Status



Initial
set of
services
ready:

Irrigation optimization (**irrigNET**)

Pest control (**trapNET**)

Crop disease prediction (**alertNET**)

Image based analysis of fields (**fieldNET**)

Machinery and asset control (**fleetNET**)

Asset management in orchards (**boxNET**)

Farm activities log book (**activityBOOK**)

13 supported crops

Prediction of **12** diseases

Monitoring of **2** types of pests

Pilot deployments done over the last
two years

Onboarding customers in progress



ACTIVITIES AND RESULTS ACHIEVED SO FAR AND NEXT STEPS

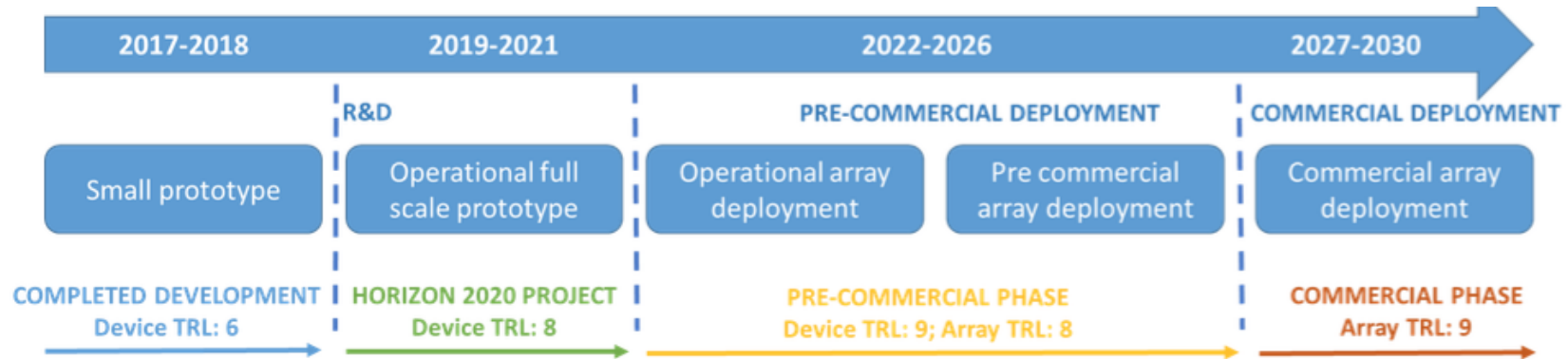


Figure 9: Project stages

To expand team

Business development
Sales and marketing,
Software development
Agriculture and supply chain domain experts

To expand functionality

New digital farming micro-services
End-user solutions for new domains (cattle, storage of crops)
Product passport with sensing capabilities

FEASIBILITY

- Technological
- Practical
- Economic

Product Development Process



Customer Development Process



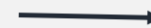
**Customer
Discovery**



**Customer
Validation**



**Customer
Creation**



**Company
building**

Concept /
Seed



Product
Development



Alpha/Beta
test



Launch / 1st
Ship

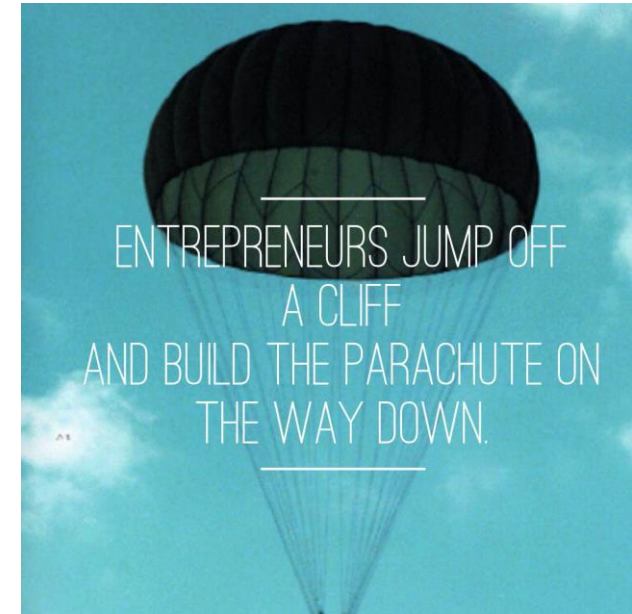


REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



RISKS

The EIC Accelerator supports **high-risk**, high-potential small and medium-sized enterprises and innovators to help them develop and bring onto the market new innovative products, services and business models that could drive economic growth.



RISKS

Only brief description

ONLY BUSSINESS RISKS

Business risks # Project risks
(mentioned in section 3)

EIC projects must be risky!



1. Production (weather, disease/pests, field loss, spoilage)
2. Price/Market (reduced premiums, high input prices, etc.)
3. Casualty (fire, weather and theft)
4. Technology (performance failure, obsolete machinery)
5. Relationship (landlord, lender, supplier and buyer)
6. Legal/Regulatory (non-compliance with regulations contract rules or other laws)
7. Human (underperforming managers, injured employees)

CRITERIA

High-risk/high-potential innovation ideas that have something that nobody else has. It should be **better and/or significantly different** to any alternative. Game-changing ideas or breakthrough innovations are particularly sought after. It's **high degree of novelty** comes with **a high chance of either success or failure**.

Realistic description of the **current stage of development**; at **least TRL 6**, or something analogous for non-technological innovations and clear outline of **steps planned to take this innovation to market**.

Highly innovative solution that goes beyond the state of the art in comparison with existing or competing solutions, including on the basis of costs, ease of use and other relevant features as well as issues related to climate change or the environment, the gender dimension and any other benefits for society.



CRITERIA

Very good understanding of both risks and opportunities related to successful market introduction of the innovation from both technical and commercial points of view. Documentation on the **technological, practical and economic feasibility of the innovation**. *The 'feasibility' aspect is closely examined if you are invited to present your proposal.*

Objectives for the innovation proposal as well as the **approach and activities** to be developed are **consistent with the expected impact** (i.e. commercialisation or deployment resulting in **company growth**). Appropriate definition provided of specifications for outcome of project and criteria for success.

Taken as whole, to what extent the 'Excellence' elements **are coherent and plausible**





Contact:

Office Address

*Turkey in Horizon 2020 Project
And Sokak 8/12 Akasya Apt. 06680 Çankaya/Ankara
06520 Çankaya/Ankara,Turkey*

Tel: +90 312 467 61 40

<http://www.turkeyinh2020.eu/>

info@TurkeyinH2020.eu

Teşekkür ederim!
Thank you!



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



COMPETITIVE
SECTORS
PROGRAMME



TÜBİTAK