



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 Camp for SMEs  
Section 1: Excellence

*Grigoris Chatzikostas*

*Training Coordinator*



REPUBLIC OF TURKEY  
MINISTRY OF INDUSTRY  
AND TECHNOLOGY



# Grigoris Chatzikostas

## Training Coordinator in "Turkey in Horizon 2020 – Phase II" project



M.Sc. in Finance

- “ Managing multi-national and cross-sectoral consortia, **writing proposals for EU funding and coordinating large-scale projects** that promote tech-enabled entrepreneurship in various sectors such as agrifood, ICT, environment, health, manufacturing, entrepreneurship etc.
- “ **Training, coaching, mentoring and supporting researchers and innovators** on issues related to proposal writing for EU funding opportunities, project management of EU funded projects, IPR management and entrepreneurship, in countries such as Greece, Serbia, Lithuania, Bulgaria, Turkey, Tunisia, Poland etc

17yrs

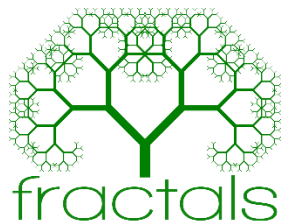
Experience in EU  
projects



1st position in  
Serbia in attracting  
H2020 funds

100+ m€

Total value of  
projects managed



## 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.



# IDEA AND SOLUTION:

Innovation in detail

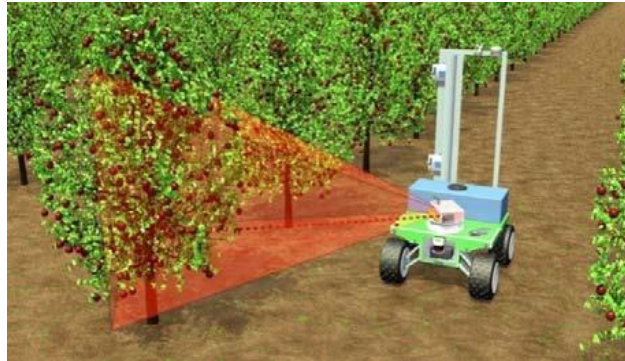
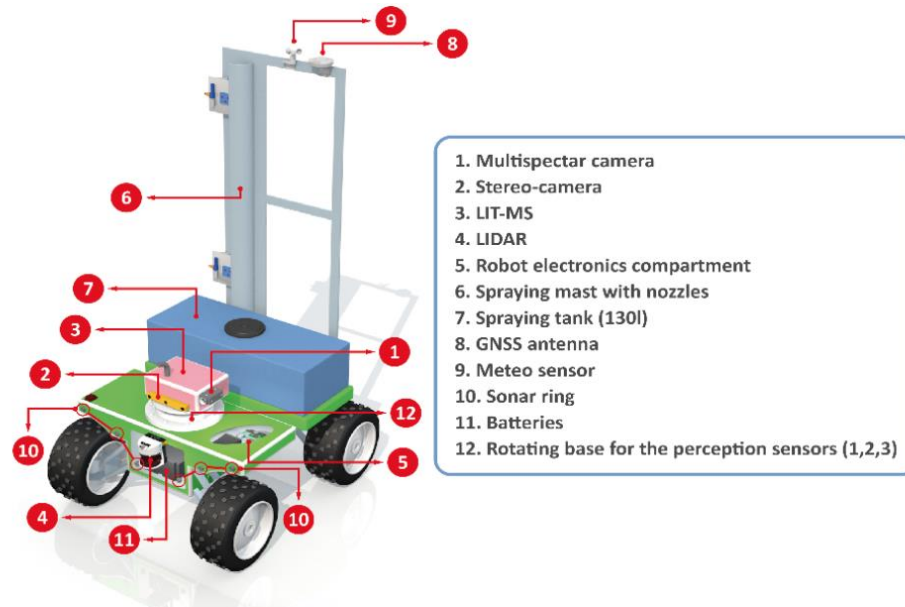
What are the objectives

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.**

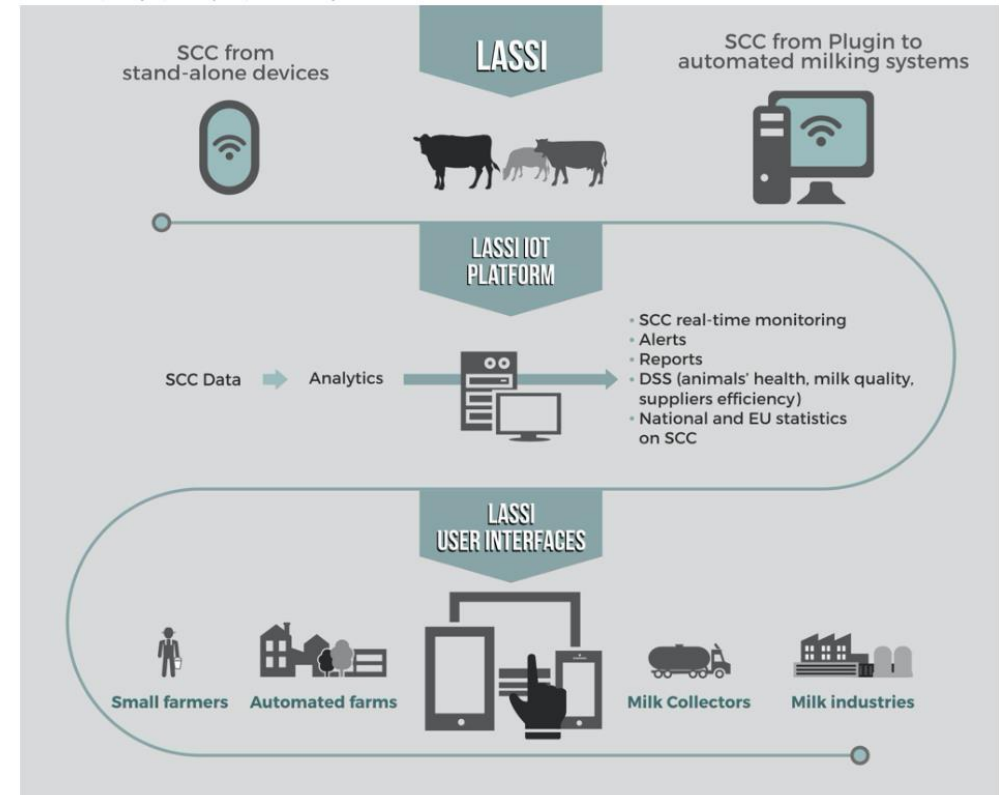
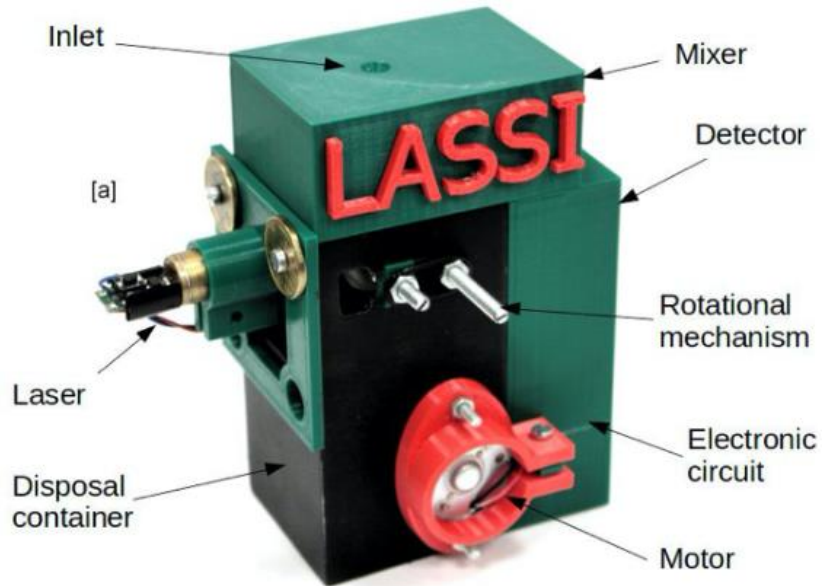


# INNOVATION IN DETAIL





# 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
<b>O1: Prototype Development</b>	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%
<b>O2: Solution Development</b>	User interfaces meet usability needs of the users	85%
	Acceptance of the proposed services by users	90%
<b>O3: Validation</b>	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"

Higher 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"><li>• Bone, muscle, skin, organs, hormones, enzymes</li><li>• Brain chemistry - cognition and mood</li><li>• We need protein approximately every 3-4 hours to stimulate the thyroid and to balance blood sugar levels</li><li>• Metabolism</li><li>• Specific amino acid functions</li></ul>	<ul style="list-style-type: none"><li>• Loss structures e.g. skeletal muscle</li><li>• Brain chemistry imbalance</li><li>• Fatigue, loss energy</li><li>• Slower metabolism, weight loss or gain</li><li>• Mood imbalance</li><li>• Cognitive dysfunction (ie. reduced focus, memory)</li></ul>



# THE ALTERNATIVE PROTEINS CONCEPT



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

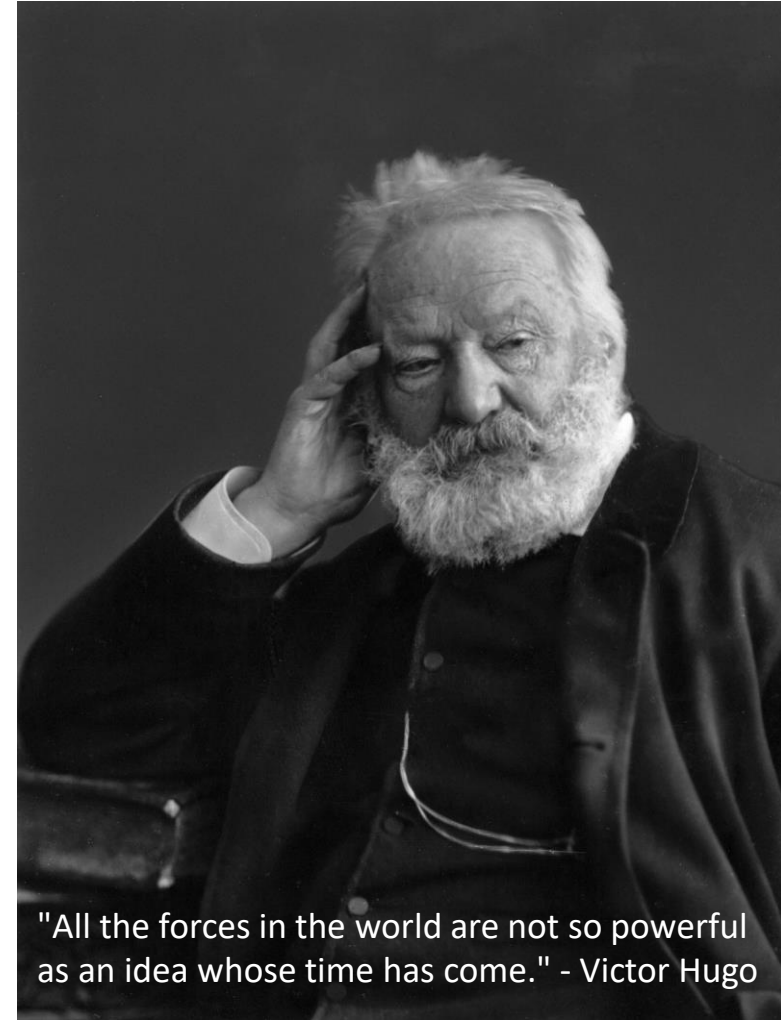




# INNOVATIVENESS

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*

	<b>Test tape method (Porta SCC)</b>	<b>California Mastitis Test (CMT) (Ekomilk SCAN)</b>	<b>Automatic counting based on image cytometry technology (DeLaval Cell Counter)</b>	<b>Automatic counting based on flow cytometry technology (Fossomatic™ FC)</b>	<b>LASSI</b>
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 €

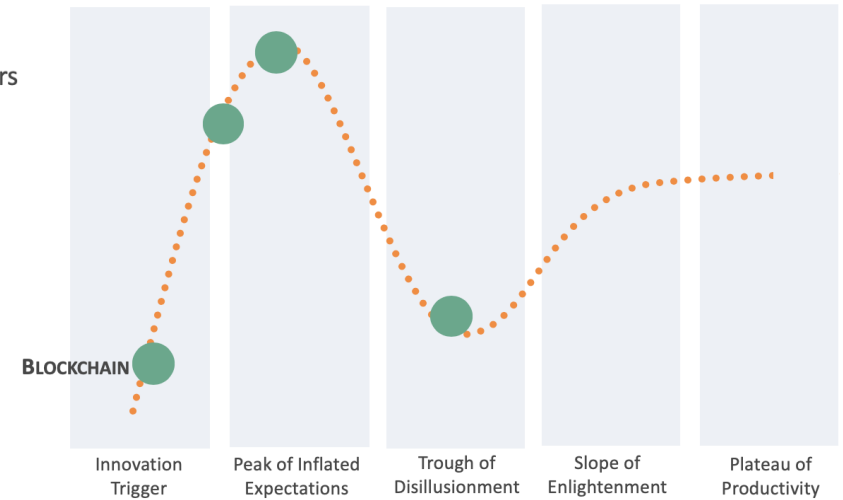
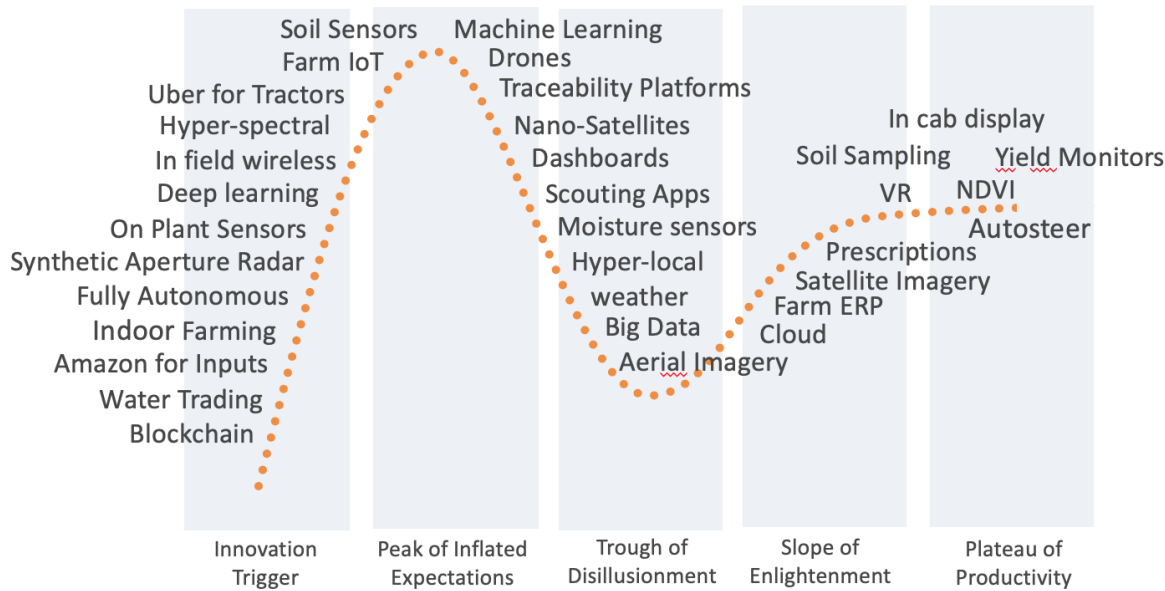


# TIMING: HYPE CYCLES

- **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

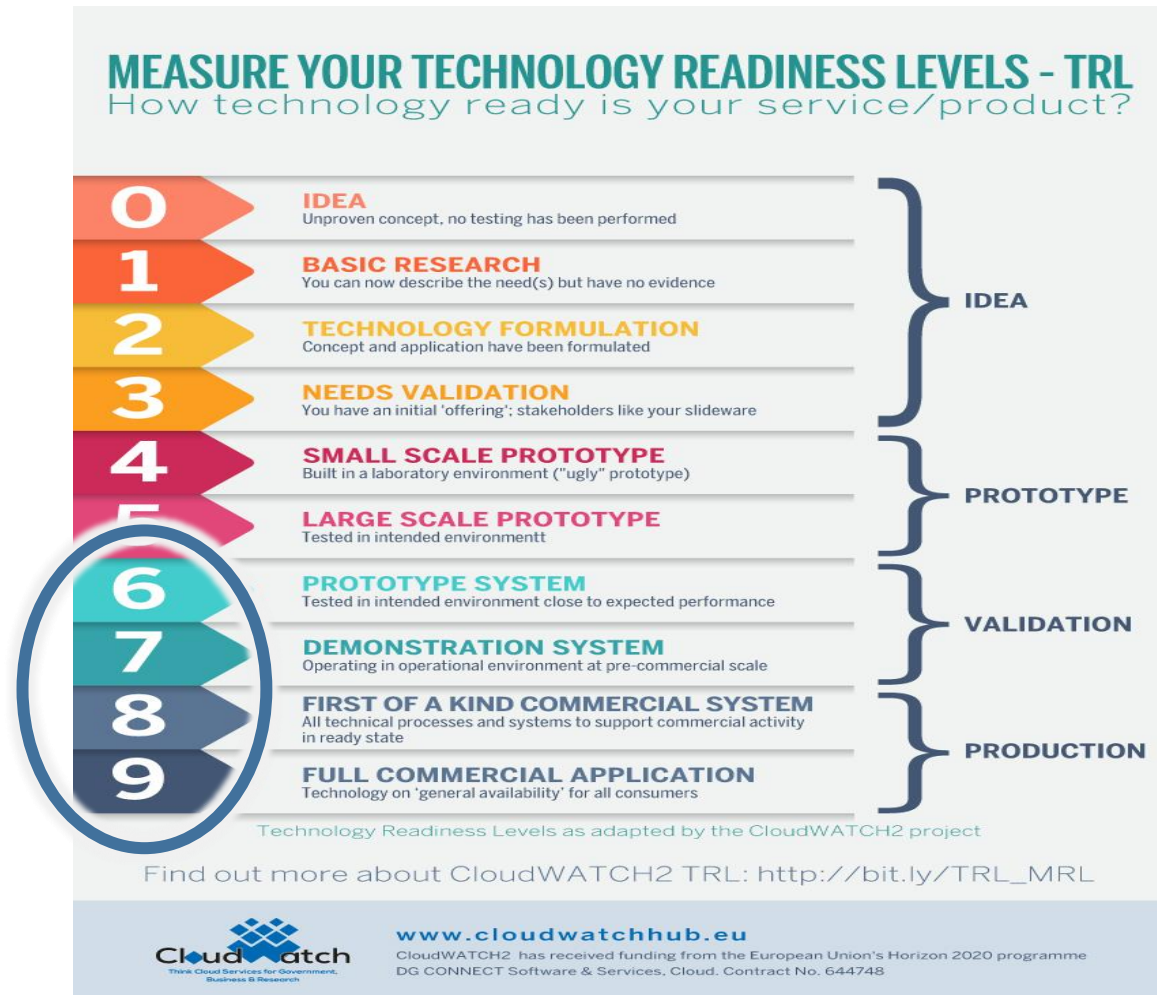


# STAGE OF DEVELOPMENT:

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

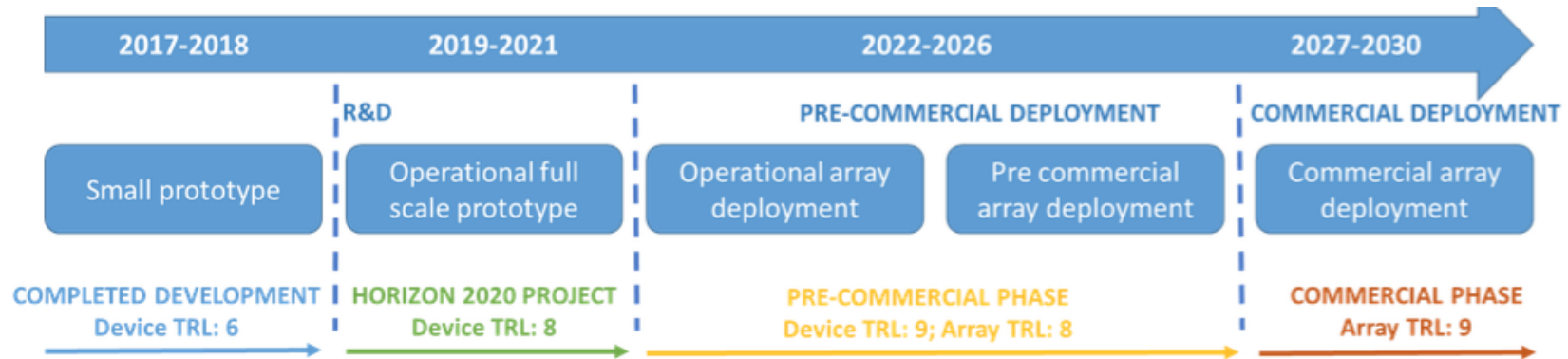
Pilot deployments done over the last  
two years

Onboarding customers in progress





# ACTIVITIES AND RESULTS ACHIEVED SO FAR AND NEXT STEPS



*Figure 9: Project stages*

## To expand team

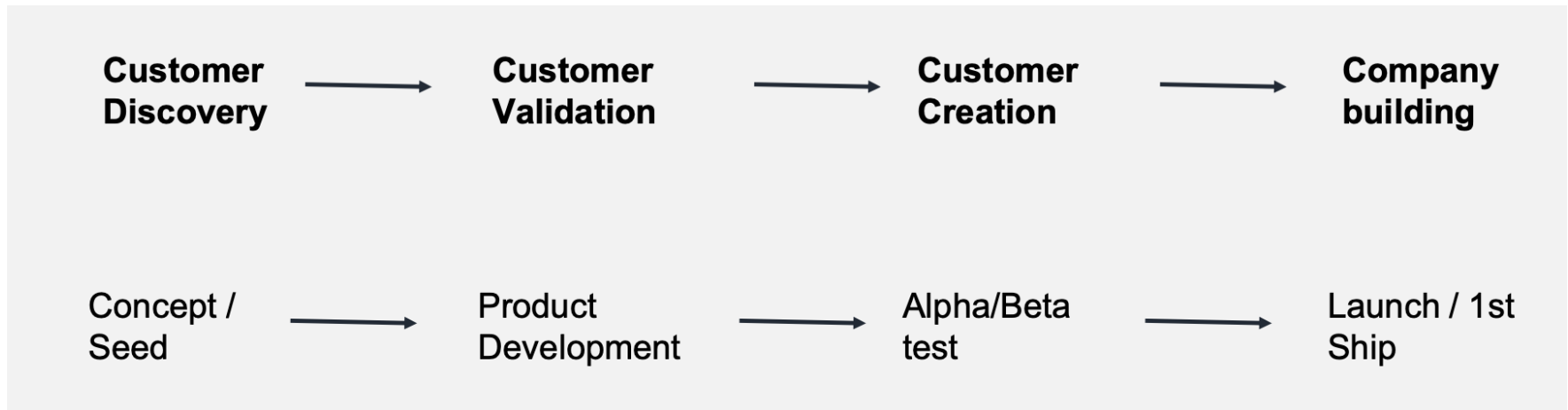
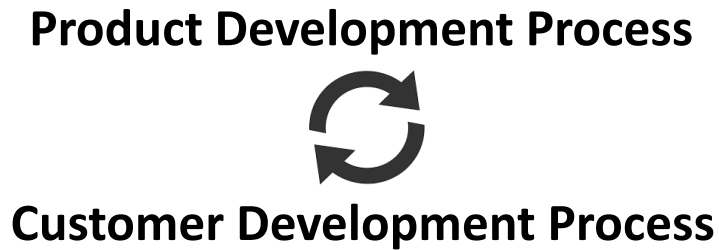
Business development  
Sales and marketing,  
Software development  
Agriculture and supply chain domain experts

## To expand functionality

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

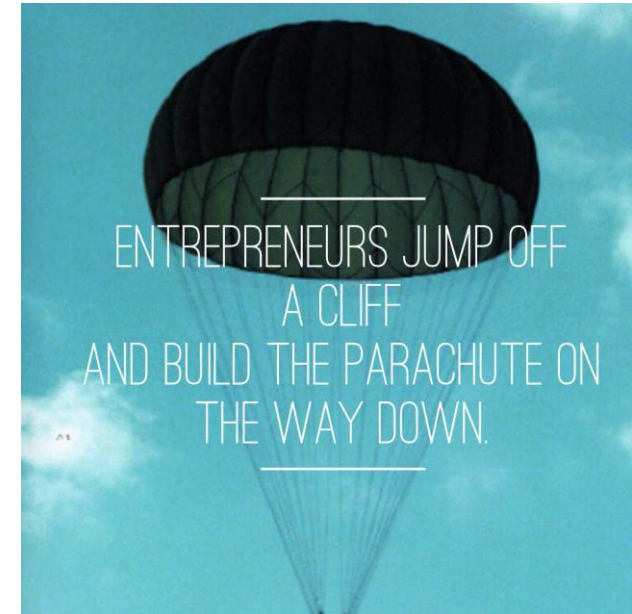
# FEASIBILITY

- Technological
- Practical
- Economic



# 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](mailto:info@TurkeyinH2020.eu)*





Teşekkür ederim!  
Thank you!



REPUBLIC OF TURKEY  
MINISTRY OF INDUSTRY  
AND TECHNOLOGY



COMPETITIVE  
SECTORS  
PROGRAMME



TÜBİTAK