



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

Proposal Writing Training for SMEs:  
Focus on key aspects of winning content

*Grigoris Chatzikostas*



REPUBLIC OF TURKEY  
MINISTRY OF INDUSTRY  
AND TECHNOLOGY

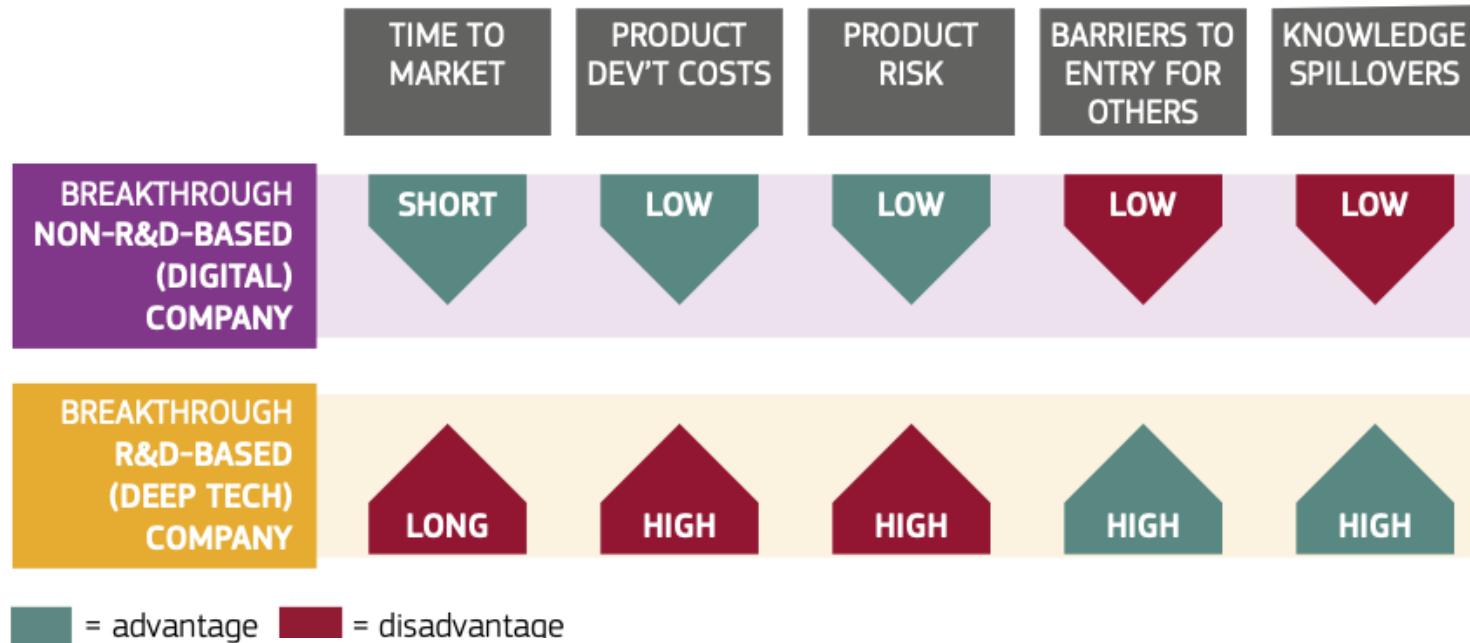


COMPETITIVE  
SECTORS  
PROGRAMME



TÜBİTAK





It's time for Europe to act **FAST!**

Deep tech: based on substantial scientific advances and high-tech engineering innovation, such as (indicatively) : advanced materials, artificial intelligence, biotechnology, blockchain, robotics, photonics, electronics, and quantum computing

**1. Funding.** — Breakthrough innovation, in particular deep tech, requires large investments, over a significant time period. This is the kind of finance that is missing in Europe and presents a systemic failure: venture capital is too small, fragmented, short term, concentrated on digital, not enough oriented towards deep-tech and lacking critical mass for patient capital. Bank lending, Europe's predominant investment channel and inherently risk averse, is not adept at supporting breakthrough and deep-tech innovation. Public support for innovation – including EU support - is perceived as complex, slow, designed for R&D and fails to bridge the gap to private investment.



## RISK vs POTENTIAL

If the level of **risk** is high but **so is the potential**, the project will be deemed non-bankable and therefore can be supported by the EIC Fund.

It is expected that the financing granted by the Enhanced EIC Pilot will **decrease the level of risk**, hence attract co-investors that would otherwise abstain.

## WHY IS THE PROJECT NON-BANKABLE?

- Lack of attractiveness from business perspective? ⊖
- Present shareholding structure being a constraint? ⊖
- Result of a systematic risk capital market gap? ✓



## Industrial Automation



- Programmable logic controllers (PLC), Motion Control (servo), Operator Panels and industrial software (SCADA Supervisory Control, Energy Management, Statistical Process Control, Recipe Management, Production Management).
- SIEMENS: Programmable logic controllers (PLC), Motion Control (servo) and Operator Panels.
- MITSUBISHI: Programmable logic controllers (PLC), Motion Control (servo) and Operator Panels.
- OMRON: Programmable logic controllers (PLC), Motion Control (servo) and Operator Panels.
- GE FANUC: Programmable logic controllers (PLC), Motion Control (servo) and Operator Panels.
- SCHNEIDER: Programmable logic controllers (PLC), Motion Control (servo) and Operator Panels.



## Services

- Card Repair any PLC card
- Procurement of materials whose production has stopped (is obsolete) and not supplied by the manufacturer due to the large stock of our suppliers.
- Conducting seminars PLC, Operator Panels and Motion Control of any PLC company
- Technical support automation systems
- Study, design and implementation of automation projects and modernization of existing facilities to optimize production.
- Experience in implementing projects in refinery units and gas production in Greece and abroad.



- Technology?
- Innovation?
- Global ambitions?
- Scale-up potential?
- Proprietary technology?



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## STATE-OF-THE-ART ROBOTIC SORTING

Compact State-of-The-Art Robotic Sex Sorting module based on deep learning technology to provide an affordable, industrial solution and to support global efforts for fighting mosquito born disease in scale.



## SENECIO AI BASED MOSQUITO SEX SORTING MODULE

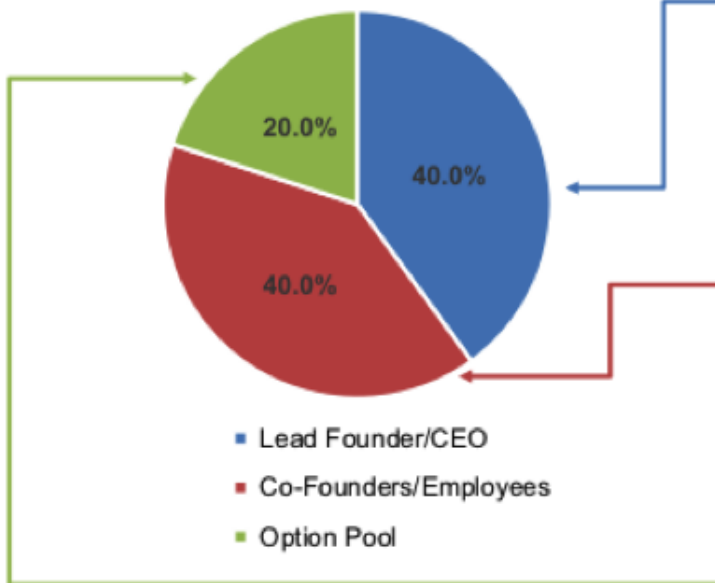
Position	Ownership %	Explanation
CEO/ co-founder	20%	He established and runs the company
CTO/ co-founder	20%	He is leading all technical developments
Researcher 1	10%	They authored altogether with co-founders the scientific papers which led to the establishment of the company – they are supporting the company mentally, but they are very busy with academic duties to work on a day-to-day basis
Researcher 2	10%	
Researcher 3	10%	
Professor	15%	
Software engineer - freelancer	10%	He supported in the initial development of the platform and he accepted equity as payment
Uncle of the founder	5%	He hosted the company in his premises for two years and he accepted equity instead of rent





## INITIAL FOUNDER SPLIT

Example Initial Cap Table



- Initial CEOs/Lead Founders typically get the largest chunk of ownership
- These Founders are day-to-day
- Initial Equity ranges from 30-60% of the company
- Co-Founders and key employees includes founding scientists, C-level execs, VP, and any initial employee
- Investors will typically like to see an initial team in place before investing in a company
- Initial option pools are set up to incentivize new hires
- A company typically refreshes their option pool at every financing round and targets 15-25%

**Company:** HYDROGENIOUS TECHNOLOGIES  
GMBH

**Project:** Hydrogenlogistics: Enabling the  
hydrogen economy

**Total budget:** 3.260.269 €

**EU Contribution:** 2.282.188 €

**Start date:** 01/02/2017

**End date:** 30/01/2019



**SOLID TECHNICAL SOLUTION,  
REALISTIC BUSINESS MODEL**



- Hydrogenious' **patented technology** enables safe and cost-efficient high-density hydrogen storage in an easy-to-handle oil, thus eliminating the need for pressurized tanks for hydrogen storage and transportation.
- LOHC will **reduce the operating cost of hydrogen transport by up to 80%** and open up new business opportunities for users.
- **Initially, Hydrogenious plans to focus on the market for hydrogen logistics, followed by the market for mobility refueling solutions** (fuel cell vehicles).
- Hydrogenious' technology has already attracted strong interest from a number of potential customers, including **sales contracts worth ~1.5 Mio. € already signed**.
- The goals of the Phase II project are to (i) develop a highly dynamic, fully automated hydrogen release system (the "ReleaseBOX"), (ii) to reduce price, complexity and delivery time and (iii) to prepare commercial roll-out in key EU countries.
- Hydrogenious is **targeting revenues in excess of €90m, with 235 employees, three years after completion of the project**. The LOHC technology can be an important enabler for a strong European hydrogen economy and has the potential to create many thousands of indirect jobs.



- WHY VCS FAIL?
- WHY BANKS FAIL?
- WHY GRANT SCHEMES FAIL?

- Why it is not possible for your company to raise the required financial resources from private investors or other sources:

**Reminder:** *“Venture capital is too small, fragmented, short term, concentrated on digital, not enough oriented towards deep-tech and lacking critical mass for patient capital. **Bank lending**, Europe’s predominant investment channel and inherently risk averse, is not adept at supporting breakthrough and deep-tech innovation. **Public support for innovation** – including EU support - is perceived as complex, slow, designed for R&D and fails to bridge the gap to private investment.” Use relevant facts and data for Turkey!*

- Description of your company’s track record and current efforts (to complement the information provided in Table 3 of Annex 4).

**Demonstrate that you tried all three above and more. E.g. Corporate investors, other? Use Annexes to provide evidence (and make clear reference)**

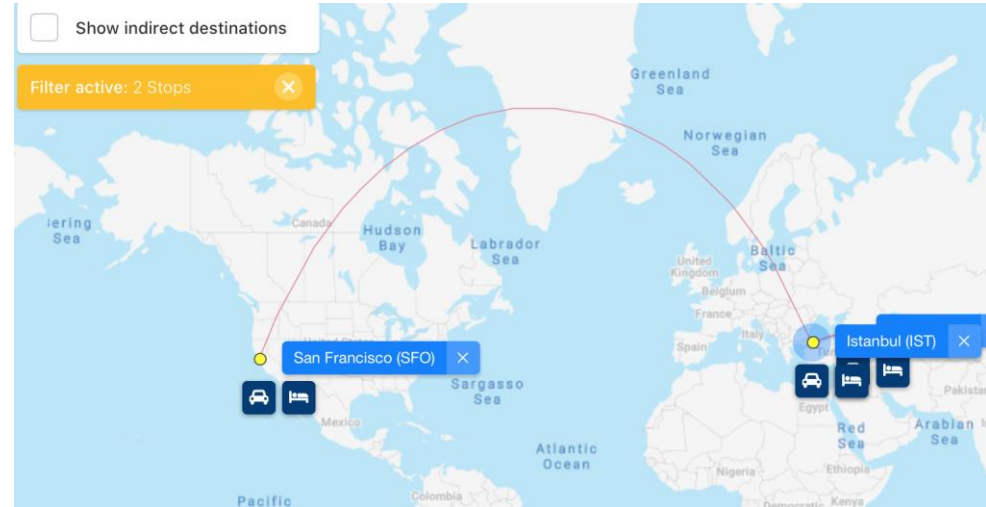
- What would the impact be if you do not receive financial support from the EIC pilot?

?

**FOMO (brain drain)**



**3. Scale.** — Europe needs continental scale to compete at global level. It cannot compete with the US or China on the basis of national and local initiatives. European start-ups should not be forced to relocate to the US to access larger financing rounds.



**Scalability:** A company's ability to maintain or improve **profit margins** while **sales volumes** increase.

## HOW TO DEMONSTRATE SCALABILITY?

- Scalable business model
- Motivated and capable team
- Substantial demand
- Favorable market conditions
- Well defined financial needs
- Realistic financial projections



## DRIVERS OF SCALING

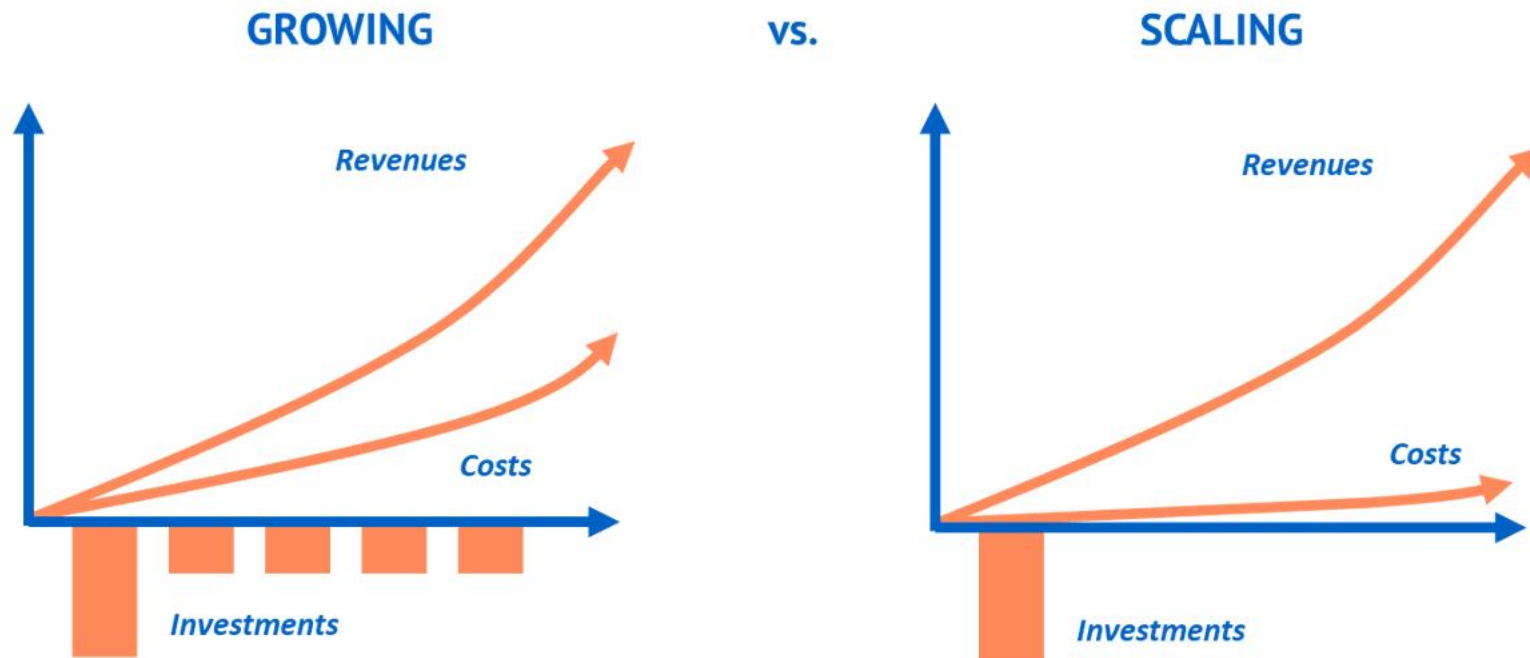
Light Asset Base

Automated Process

Low-cost labor

Replication potential

**Scalability** as such refers to the degree to which revenues can be increased without proportionally increasing investments in production or infrastructure. In other words, scalability is about increasing productivity, **creating more output with the same input.**

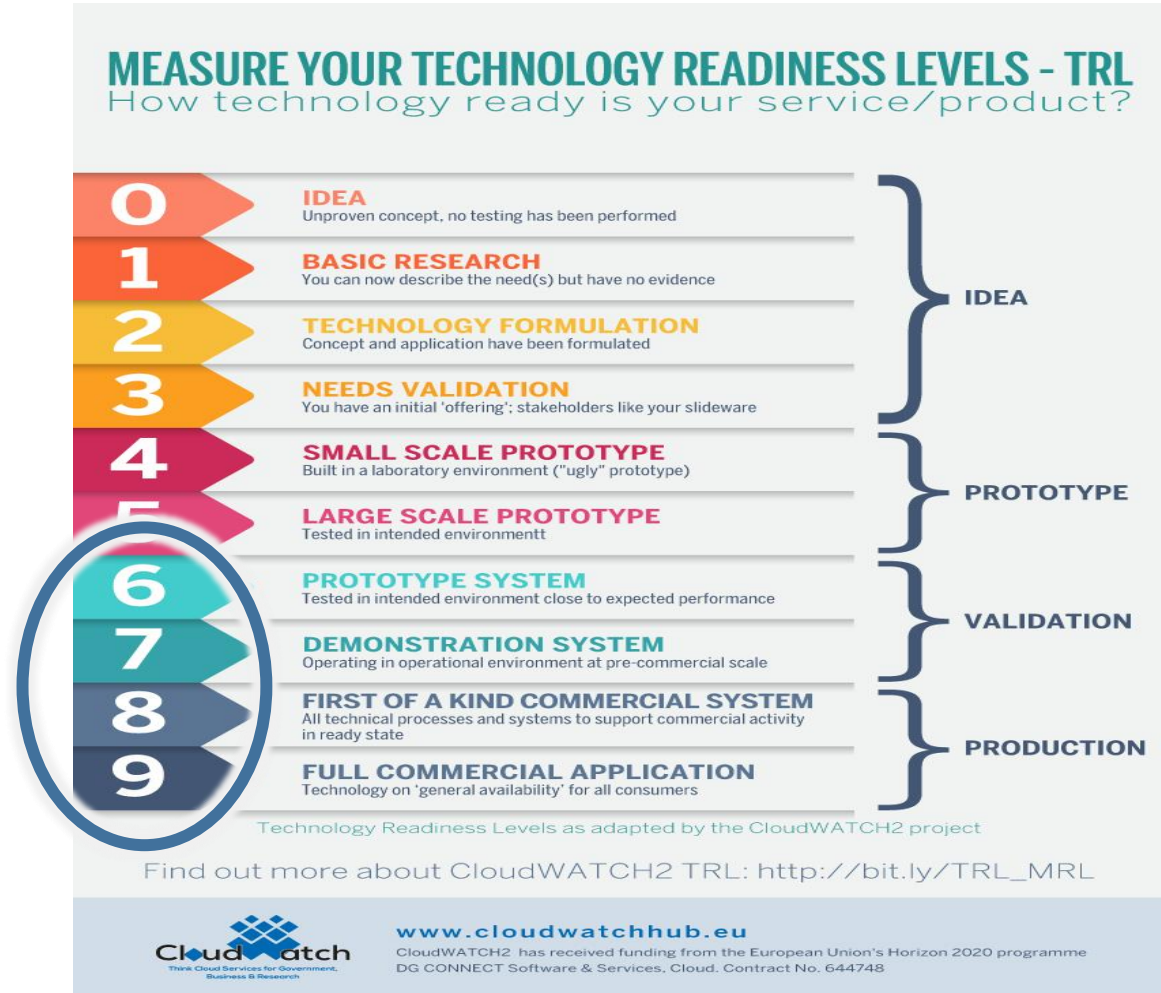


Scalability : you get more out than you put in as you grow

Current stage of development)  
 Technology Readiness Levels),

Activities and results achieved  
 so far.

Next steps planned to take this  
 innovation to the market?



## Business Readiness Level (BRL)



### Business Conceptualization (0-3)

- Perceived need that your offer can satisfy
- By BRL 3 you may have a potential product/service with evidence from clients and an idea of how you can generate value to you and to them

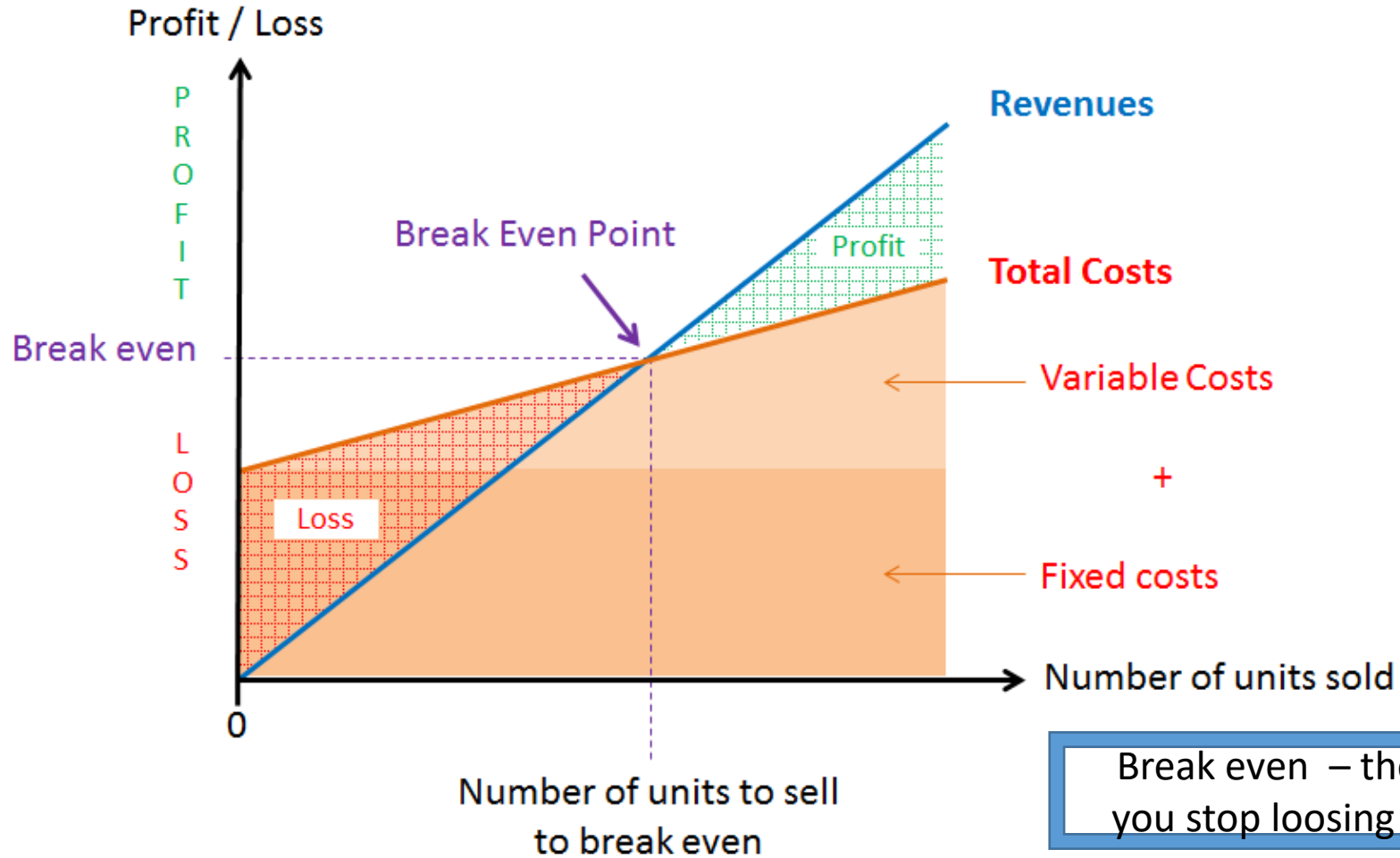
### Business Testing (4-5)

- 'Market' is strongest factor
- Testing your business with potential stakeholders or early adopters
- By BRL5 you should have measured and evolved your business and product to match client's stated needs

### Business Deployment (6-9)

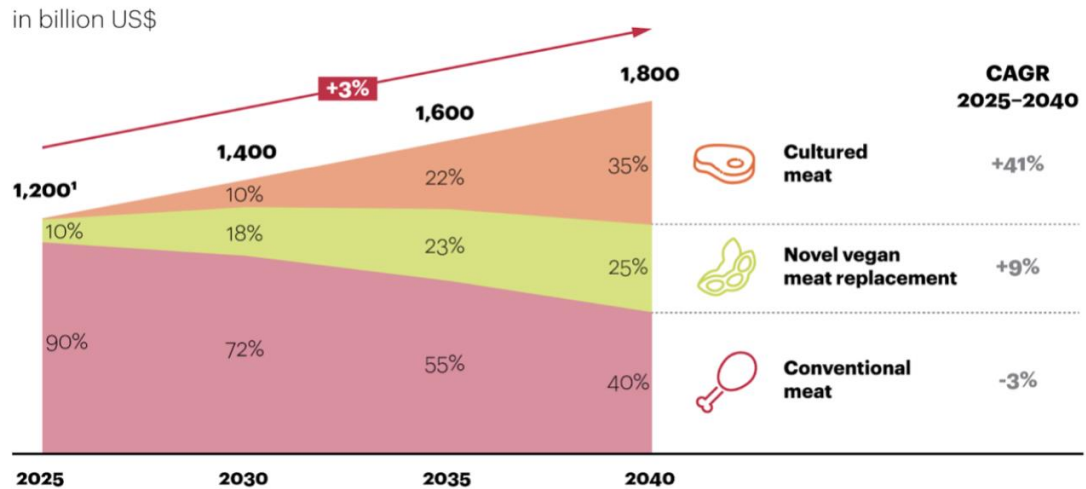
- Consolidate product with paying customer needs
- By BRL 9 you become a trusted supplier and your cashflow becomes predictable and increasingly profitable





- Market assessment (inc. conditions and growth rate)
- Potential customers
- Unique Selling Points
- Differentiators

Agriculture land globally: <b>5,000,000,000ha</b>	Number of farms globally: <b>570,000,000</b>
Number of farms with more than 10ha: <b>14,200,000</b> (1.320.000.000ha)	Smart packaging market in 2022 <b>36.2 billion USD</b>



# MARKET ASSESSMENT: TAM SAM SOM

**TAM:** Total Available Market

**Focus on:** Total market / size

Example: **Total Agricultural Robotics Market**

**SAM:** Serviceable Addressable Market

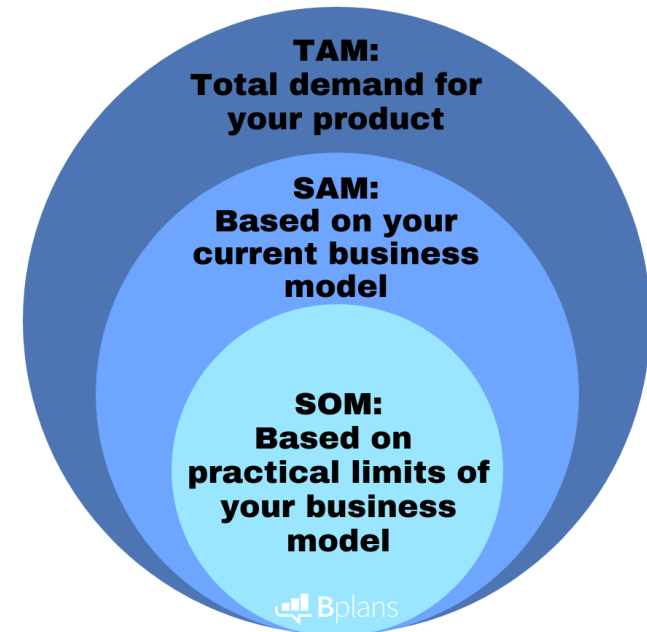
**Focus on:** Your own technology/ services

Example: **Total market for spraying robots** (Segment of total agricultural robotics market)

**SOM:** Serviceable Obtainable Market

**Focus on:** Which realistic market share can be obtained by myself considering: competition, trends, expected demand/forecast, countries, my sales/distribution channels and other market influences?)

Example: **My realistic goal** to sell spraying robots to farmers.



# POTENTIAL CUSTOMERS

## MARKET SIZE

	Avg Farm Size	Number of farm holdings			Utilised agricultural area in ha			Standard output (EUR)			Livestock units on holdings with livestock		
		All Farms	Very small & Small Farms	Large Farms	All Farms	Very small & Small Farms	Large Farms	All Farms	Very small & Small Farms	Large Farms	All Farms	Very small & Small Farms	Large Farms
Spain	24,1	965.000	758.000	52.000	23.300.000	3.559.000	12.939.000	35.979.000	16.129.000	9.049.000	14.502.000	7.409.000	3.051.000
Ireland	35,5	140.000	60.000	5.000	4.959.000	658.000	1.152.000	5.013.000	652.000	887.000	5.929.000	899.000	795.000
Serbia	4,5	650.000						5.300.000			1.800.000		
France	58,7	472.000	202.000	98.000	27.739.000	1.164.000	17.170.000	56.914.000	10.977.000	24.481.000	21.871.000	2.787.000	9.741.000
Germany	58,6	285.000	128.000	35.000	16.700.000	1.257.000	9.514.000	46.252.000	7.301.000	20.440.000	18.407.000	3.938.000	6.802.000
Italy	12	1.010.000	880.000	15.000	12.099.000	4.171.000	3.259.000	43.794.000	20.066.000	7.608.000	9.374.000	3.340.000	1.991.000
The Netherlands	27,4	67.000	38.000	2.000	1.848.000	255.000	369.000	20.498.000	9.216.000	2.066.000	6.602.000	2.983.000	446.000
<b>EU-28</b>	<b>16</b>	<b>10.841.000</b>	<b>9.353.000</b>	<b>337.000</b>	<b>174.614.000</b>	<b>32.276.000</b>	<b>90.966.000</b>	<b>331.105.000</b>	<b>107.887.000</b>	<b>110.792.000</b>	<b>130.174.000</b>	<b>40.046.000</b>	<b>40.609.000</b>

Note: Very small and small farms are defined by a utilised agricultural area <20 ha; large farms are defined by a utilized agricultural area with over 100ha

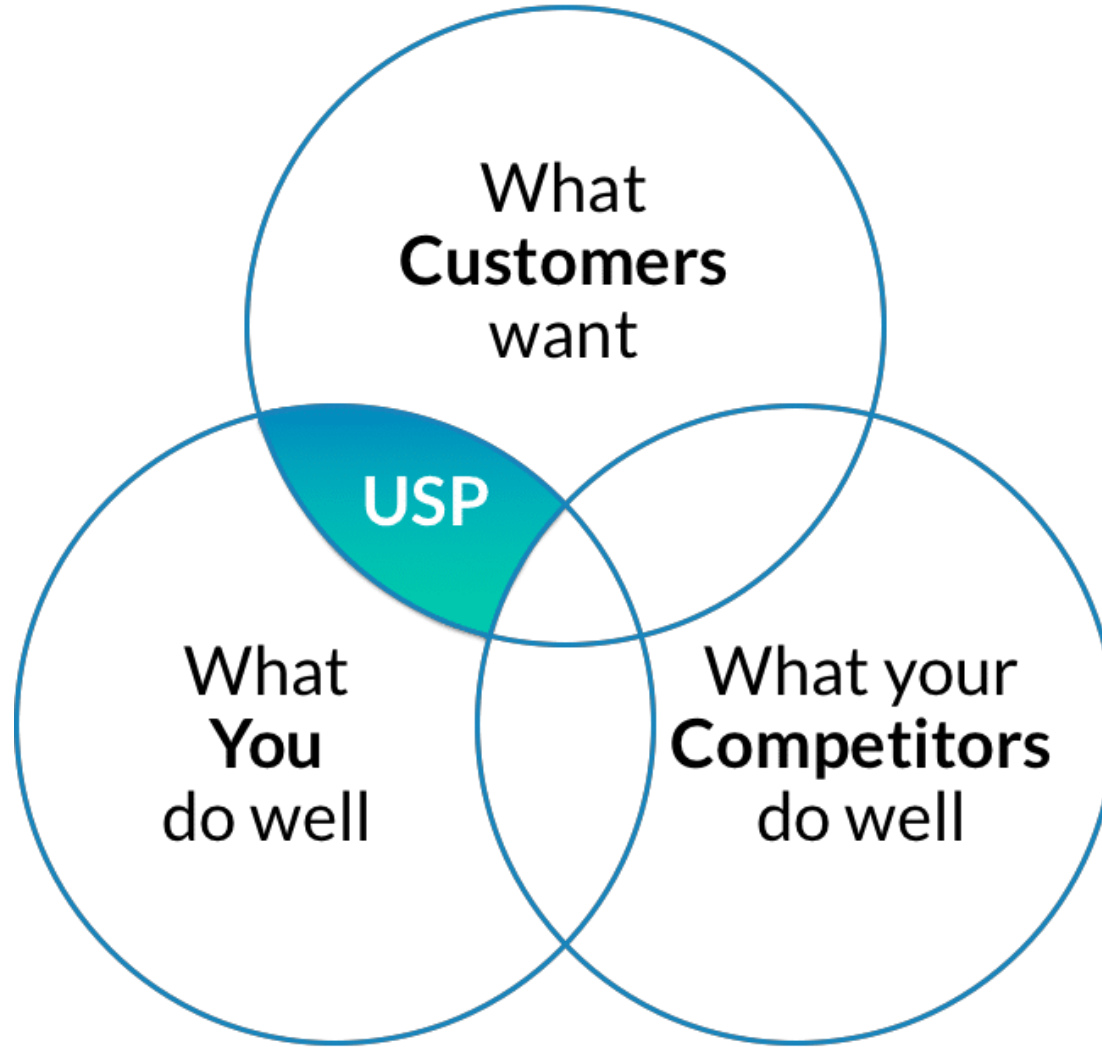
Figure 5 Market Size Statistics

## MARKET SEGMENTATION

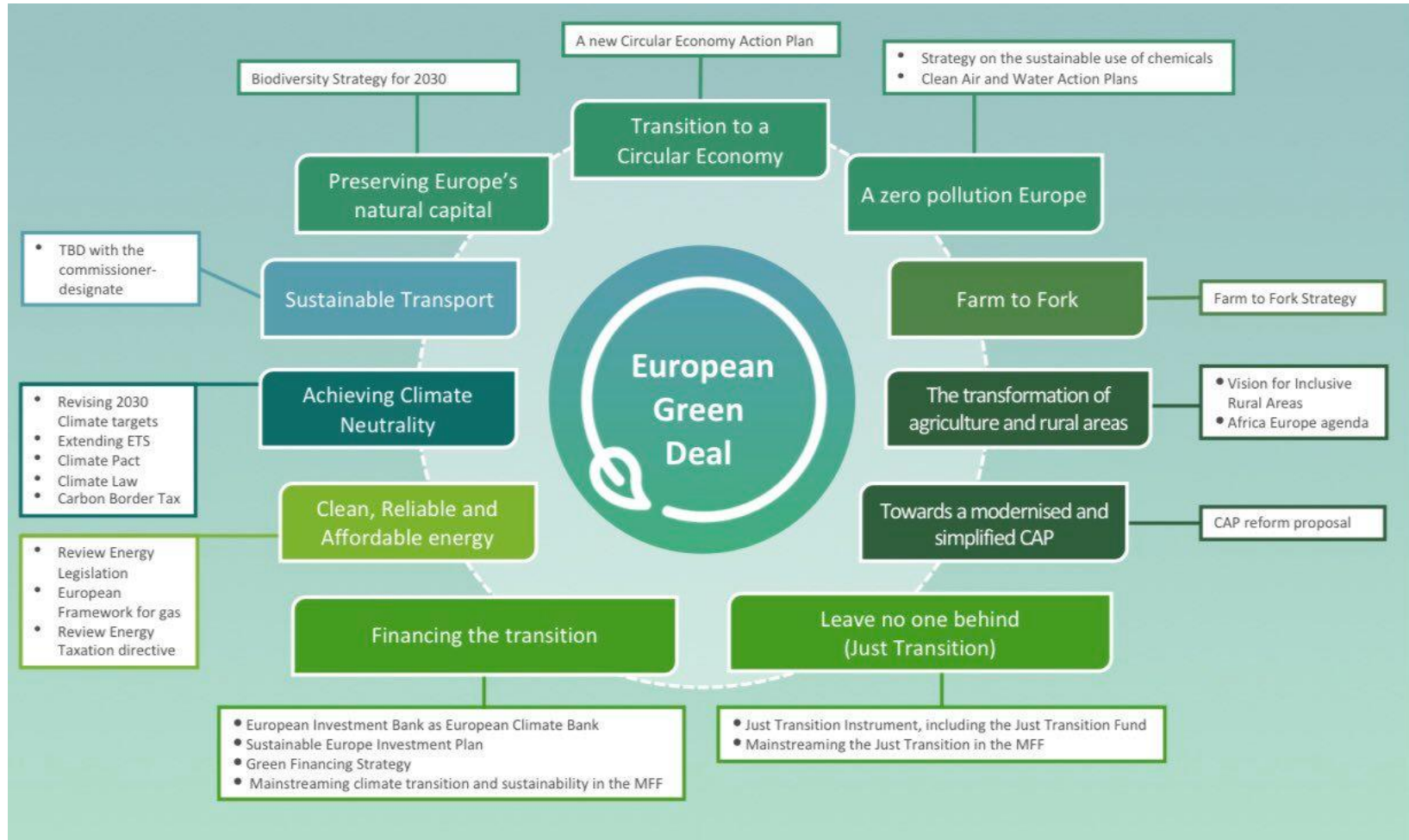
Customer Segment	Solution	Functionality	Pricing Policy	
<b>CS-A1: small dairy farms</b>	Stand-alone device & IT Platform	Test Milk Quality Instantly & Remotely	Device € 250	Platform € 100 Yearly Subscription
<b>CS-A2: Medium and large-sized farms</b>	Stand-alone device & IT Platform	Test Milk Quality Instantly & Remotely	Device € 250	Platform € 100 Yearly Subscription
<b>CS-A2: Medium and large-sized farms</b>	Live measurement Unit & IT Platform	Integrate to milking system	Device € 350	Platform € 150 Yearly Subscription
<b>CS-B: Dairy industry</b>	Stand-alone device & IT Platform	Test Milk Quality Instantly & Remotely	Device € 250	Platform € 1.500 Yearly Subscription
<b>CS-C: Milking Systems Industry (AMS)</b>	Live measurement Unit & IT Platform	Integrate to their milking systems and resale	Device € 300	Platform € 100 Yearly Subscription



# UNIQUE SELLING POINT







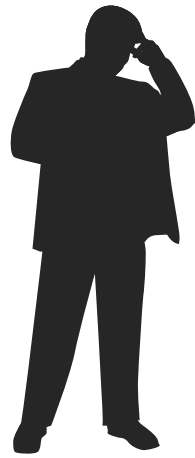
1. An activity is considered to do significant harm to climate change mitigation if it leads to significant greenhouse gas (GHG) emissions;
2. An activity is considered to do significant harm to climate change adaptation if it leads to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature or assets<sup>6</sup>;
3. An activity is considered to do significant harm to the sustainable use and protection of water and marine resources if it is detrimental to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters;
4. An activity is considered to do significant harm to the circular economy, including waste prevention and recycling, if it leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources, or if it significantly increases the generation, incineration or disposal of waste, or if the long-term disposal of waste may cause significant and long-term environmental harm;
5. An activity is considered to do significant harm to pollution prevention and control if it leads to a significant increase in emissions of pollutants into air, water or land;
6. An activity is considered to do significant harm to the protection and restoration of biodiversity and ecosystems if it is significantly detrimental to the good condition and resilience of ecosystems, or detrimental to the conservation status of habitats and species, including those of Union interest.

- More women participating in research and innovation programmes  
Better integration of the gender dimension in the content of research and innovation projects
- More participation of EU widening countries in actions dedicated to gender equality in research and innovation organisations
- Broadening gender equality policies in research and innovation to intersections with other potential grounds for discrimination such as ethnicity, disability and sexual orientation

- The **integration of the gender dimension into research and innovation content** (i.e. sex and gender analysis) **becomes a requirement by default across the whole programme**
- Flagship measures and activities promoting gender equality under the **European Innovation Council (EIC)**, including a target of 40% women-led companies invited to **pitch their projects**, a target of 50% women among members of advisory structures, a prize for women innovators and a dedicated initiative to support women-led start-ups.
- Particular attention will be paid to ensuring **gender balance** in evaluation panels and in other relevant advisory bodies, such as boards and expert groups. Gender balance among researchers involved in projects will be strongly encouraged and will be taken into account for equally ranked proposals.



**For most  
evaluators,  
English is not  
their first  
language.**



**Evaluators  
are human!  
They can get  
bored, tired,  
ill,  
confused...**



**The proposal  
must be  
easy to  
follow, even  
by a non-  
expert.**

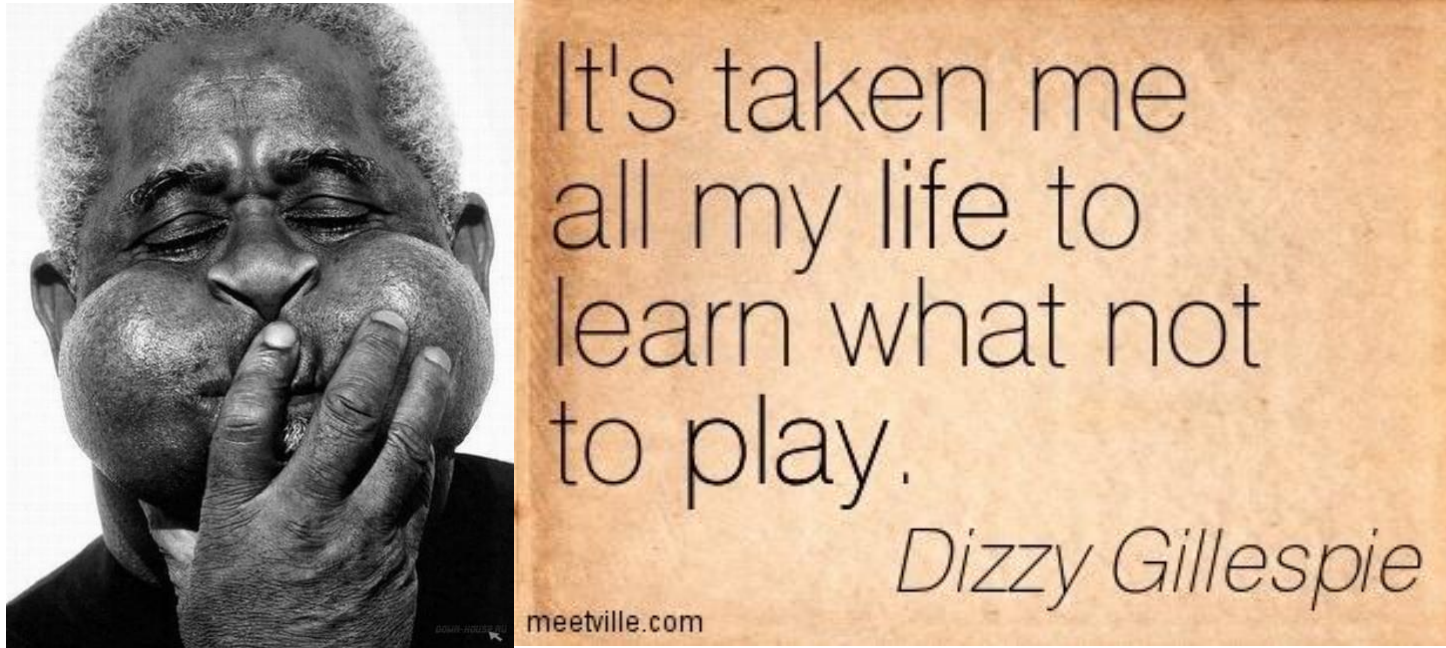


**It must be easy  
for the  
evaluators to  
find the key  
points relevant  
to the Call and  
to the evaluation  
criteria.**



**Evaluators  
might not  
have time to  
read every  
word of your  
proposal.**





## LIMITED SPACE



## DOs

- Ask different people to check the whole text
- Make sure formatting is according to specs
- Make sure that there is a common writing style
- Look at all questions in the platform upfront so that you have answers

**DOWNLOAD AND CHECK  
AFTER YOU SUBMIT!**



## DON'Ts

Keep the proposal in separate files

Use different computers/ versions of software

Forget to fill in all tables and Sections

Submit the last moment of the deadline

**MAKE IMPORTANT CHANGES IN  
THE LAST MOMENT**

**TIP: Start making trial submissions a couple of days before the deadline to test the system, BUT make sure that at the end you have the correct version uploaded!**

Contact:

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TÜBİTAK



Teşekkür ederim!

Thank you!



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