enterprise europe network

BCD Ref.: ……

Finding Business Partners Abroad

Company's Contact Details:

Company's name: EFEVRE TECH LTD		
VAT. No.: 10384880Z	Reg. Number: HE384880 (Dpt of Registrar of Companies & Official receiver)	
Address / Street: 104 KYKLIKI LEOFOROS STREET		
Postcode: 6056	City: Larnaca	Country: Cyprus
www-Address: www.efevre.com		Year established: 2018

Contact Person:

First Name: Dimitris	Family Name: Kyriakou	
Position in the company: Director		
Tel. Number: +35799799808	Fax Number: -	Mobile Number: +35799799808
Email Address: efevretech@gmail.com		

Type and Size of your company:	☒ Industry SME <=10 ☐ Industry SME 11 - 49 ☐ Industry SME 50 - 249 ☐ Industry >500 ☐ Industry > 500 MNE	☐ Industry 250 - 499 ☐ Inventor ☐ Other ☐ R&D Institution ☐ University

Turnover in Million Euro:	☐ 1 - 10M ☐ 10 – 20M ☐ 20 – 50M ☐ 50 – 100M	☐ 100 – 250M ☐ 250 – 500M ☐ <1M ☐ > 500M

Is your company engaged in Trans-National Co-operation?	☐ Yes	☒ No

Certification/Quality standards:	☒ None	☐ ISO9000
If other please specify:		

Contact Languages:	☒ Greek	☒ English	☐ Other

Description of your company – Please provide the following information:

- your business activities
- your **NACE CODES** **(**Select from the electronic guide available in the Hyperlink by Press [CTRL] + left click mouse
- short company history
- particular expertise
- position in the market
- previous experience with international cooperation

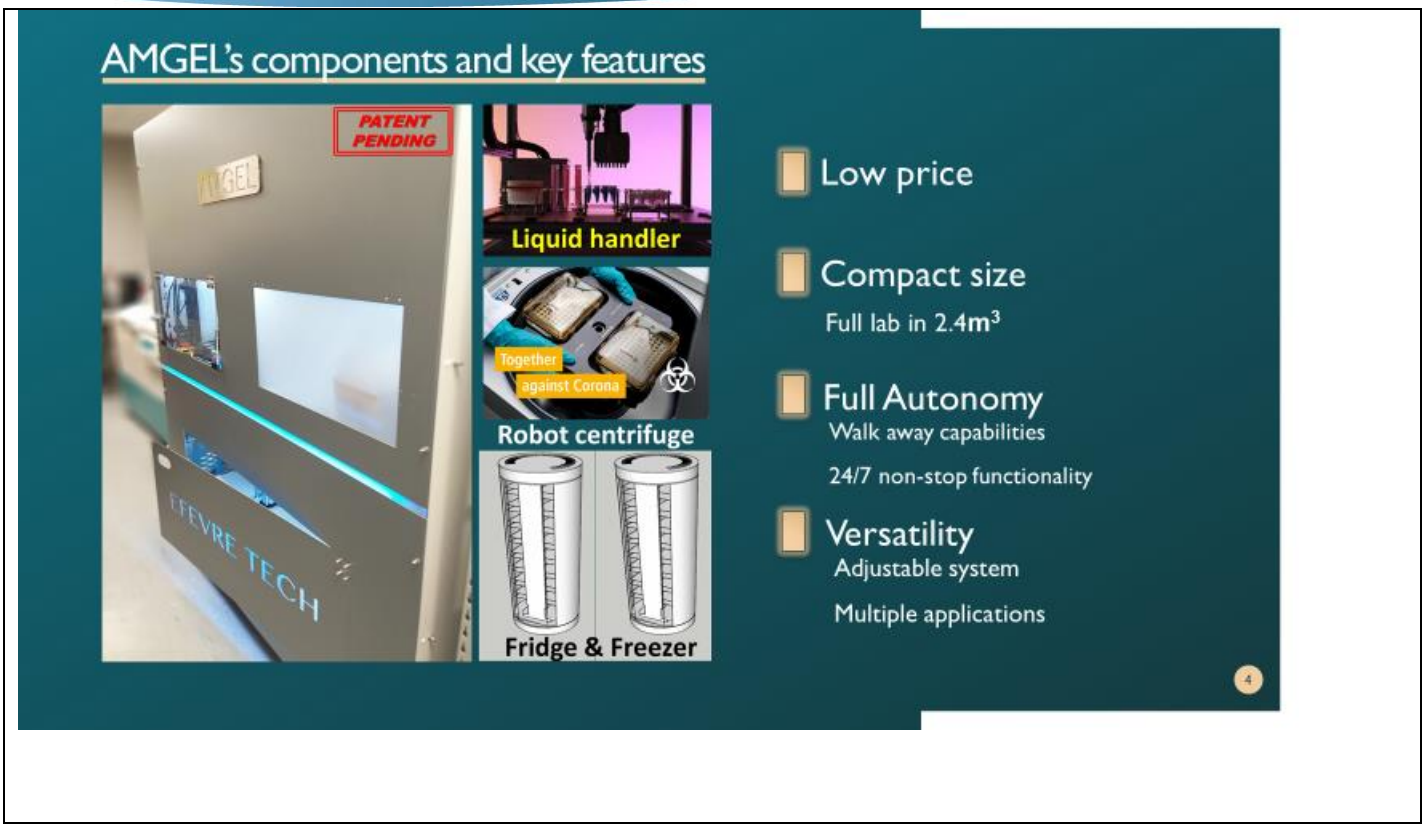
EFEVRE TECH LIMITED (www.efevre.com)
EFEVRE TECH LTD (named after a Greek word meaning 'to invent'), is an R&D Biotechnology startup company established in Larnaca in June 2018 by two passionate individuals who are highly skilled in their respective scientific fields: Dimitris Kyriakou, PhD in Molecular Biology and Antonios Inglezakis, Masters in Electronics and Computers engineering and Embedded systems engineering. According to the statistical service of Republic of Cyprus, EFEVRE TECH LTD, is categorized in **NACE (Level 1)** [M] Professional, Scientific and Technical practices, **NACE (Level 2)** [72] Research and Development (R&D) and **NACE (Level 3)** [7219] Research and Experimental development in natural sciences and engineering.
The main focus of EFEVRE TECH LTD (www.efevre.com, https://www.linkedin.com/company/efevre-tech-ltd/) is the design, manufacture and retail of prototype/innovative devices that will support the needs of life-science research and diagnostic laboratories. One ambitious project of EFEVRE TECH LTD is the development of AMGEL, which provides versatile automation of any laboratory protocol in any life-science field.

Products or services on offer/requested (Don't just include a long list of products or services)

- Indicate clearly what are you offering or requesting
- Main features and application fields

We have developed the state-of-the-art prototype automation platform AMGEL - AutoMated GEneral Laboratory to revolutionize life-science research methodology worldwide. AMGEL aims to automate most of the processes that constitute the bottleneck in a researcher's everyday workflow, reduce the rate of errors and increase overall productivity. The AMGEL prototype has

been used in the Department of Biological Sciences at University of Cyprus (UCY) since August 2019 and will reach TRL7 within 2020. We have established a network of early adopters from 3 main research institutes and an industrial partner in Cyprus, who will use AMGEL in their research workflow and support its further development with feedback until it reaches the market.
Currently we require funding for allowing the completion of the remaining R&D steps necessary (finalize, backend and frontend software, buy and incorporate final hardware pieces), CE certification and Patenting in order to enter the global market, late in 2021. We should note that, intellectual property rights for AMGEL are currently protected by US provisional patent (62,993/393) issued in March 2020. Also, the commercial exploitation rights for AMGEL is secured exclusively for EFEVRE TECH LTD by signed agreements with all associated R&D collaborators.We would like to recruit strategic investors and collaborators for worldwide promotion and distribution of AMGEL. Commercial exploitation of AMGEL will generate growth for the involved start-up company and create new job positions for highly educated and skilled scientists.



What are you trying to achieve in terms of the prospective cooperation? What do you expect from this international partnership (outcome)?

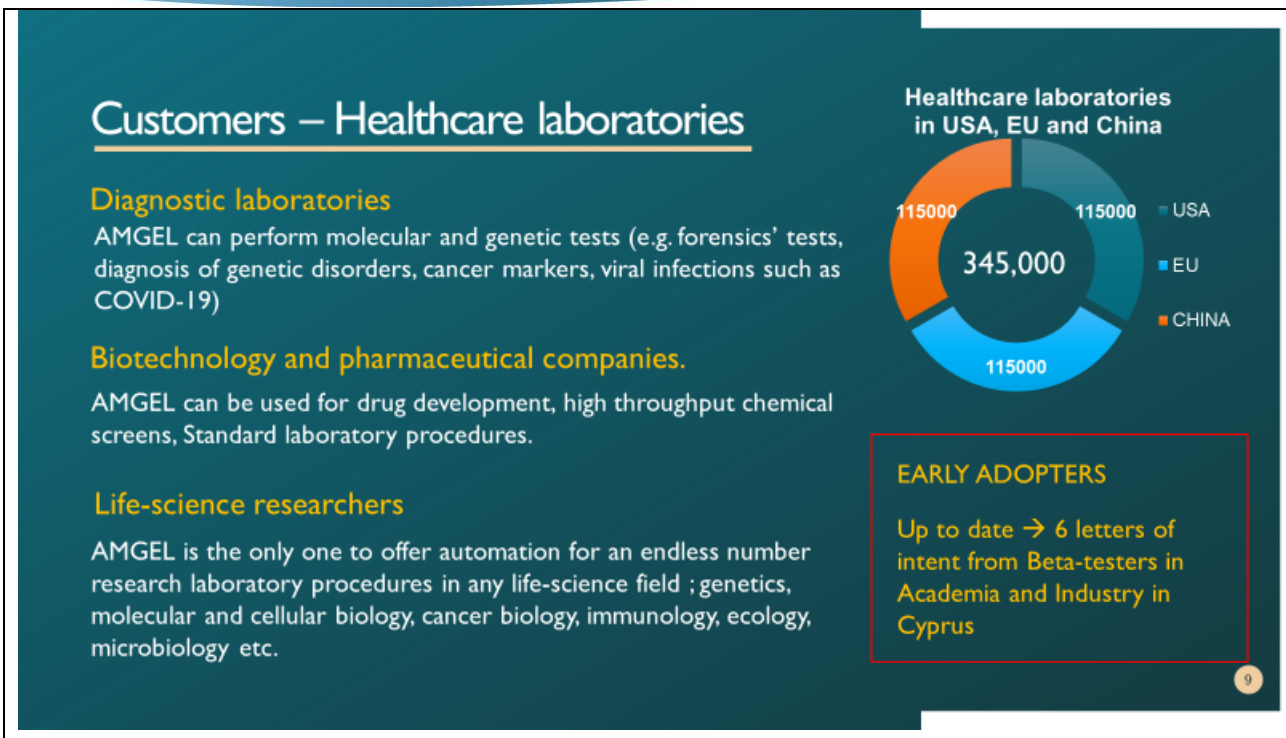
We would like to recruit:

-Strategic investors to raise funding for finalizing AMGEL and supported for market infiltration and successful scalability, first in EU and Israel and then in USA and China.

-Distribution partners for AMGEL across the globe.

-Service providers for customer support in EU, Israel, US, China.

We target the following customer segments:



Advantages and innovations of your products/services
For example:

- Explain why your products' price is lower in comparison to existing products in the market
- How your services are more cost-effective than the competitors?
- How do you guarantee high quality products/services?
- Mention elements such as experience in the sector, knowledge of the market, performance, usability

By combining existing and new technology in one multi-tasking unit, EFEVRE TECH provides a high-throughput, tireless and consistent laboratory automation tool for mainstream (but not limited to) procedures at a lower price than that of current, non-versatile systems (**Table 1**).

Automation Features	AMGEL (EFEVRE TECH LTD)	epMotion (Eppendor)	PlateCrane EX (Hudson robotics)	BenchBot Robot (Agilent)	Standard workcells (Biosero)	Bravo BenchCel Workstation (Agilent)	Hive Laboratory Automation Platform (Bionex solutions)	Verso Automation platform (Hamilton)
Pipetting	●	●			●	●	●	●
Heating	●	●						
Cooling	●	●						
Centrifuge	●				●		●	
Handling system	●		●	●	●	●	●	●
Freezer/Fridge storage	●							
Plate sealer	●				●		●	
Single tube experiment	●	●						●
Tube lid open/close	●						●	●
Barcode reading	●	●			●	●	●	●

Table 1. AMGEL's plethora of technical features are not matched by other competitive product which due to less technical features are deprived of true versatility in function. *Red dots show existing features with significant limitations compared to AMGEL e.g. centrifuge with very low speed, only for microplate use, pipetting only for multichannel dilutions, not individual tube pipetting.*

<u>The following **User-case** for PCR 96-well plate preparation can exemplify AMGEL's significance as a core-laboratory automation device:</u>

Based on this experiment alone, AMGEL can generate a 96-well PCR plate at 50% of the time. Additionally, based on this example, AMGEL saves 54.5 minutes from researcher's bench time for every qPCR its performing, thus increasing overall productivity. Also, the researcher can program his/her laboratory scheduling precisely according to AMGEL's repeatability on the execution time of qPCR plate loading (25 minutes each time) (**Table 2**).

Procedure : Quantitative PCR (96 well) microplate) loading	Experienced life-science researcher (on average tested time)	AMGEL (tested time)
1. Prepare each Master Mix (MM) Transfer reagents: SybrGreen, ddH2O, Primer A and Primer B and MIX via pipetting or vortex	3.5 minutes	2 minutes
2. Load 1-2ul of Sample to each well	15 minutes	1 minute
3. Transfer 8-9ul of MM in each well (changing tip each time)	14 minutes	7 minutes and 14 seconds
4. Mixing via pippeting	22 minutes	15 minutes and 5 seconds
Total time	54.5 minutes	25 minutes and 19 seconds

Table 2: Comparison of protocol implementation time (RT-PCR plate loading) between manual-execution and AMGEL automation.

<u>AMGEL's competitive advantage and value proposition:</u>

The AMGEL platform is **versatile, autonomous**, **affordable and compact.**

1. True Versatility: Versatility is achieved by automation of different experimental procedures for various life-science research fields (**Figure 3**) and is doable due to the automation of core laboratory processes e.g. pipetting, incubating, centrifugation etc. (**Table 1** automation features). This is achieved by optimal automation of multiple core laboratory equipment (pipettes, centrifuge, vortex, temperature modules, fridge/freezers, magnetic modules and thermocyclers) (**Figure 2**) **by our custom-made connecting hardware and running software which allow any combination of experimental steps to be executed.**

2. Full Autonomy: Autonomy is provided, since reagents and samples will be stored in automated fridge (4^0C) and freezer systems (-20^0C) inside the platform and used on demand. Due to innovations on design and software of AMGEL, the users will have remote access to the system and the experiments will be scheduled and performed around-the-clock without the need

of laboratory staff to be present. Thus, AMGEL maximizes efficiency and accelerates scientific discoveries by significantly increasing (by a factor of 3) the number of experiments performed in 24hours.

3. Competitive price: low selling and running cost: Estimated selling price for AMGEL is set at 150 thousand euros/unit and is expected to be reduced the first 5-years of its release by exploring economies of scale (see **Table 5**). On the contrary, Hive automation platform by Bionex solutions which can be custom-made to perform some protocols performed by AMGEL and other platforms (e.g. VERSO by Hamilton robotics) with less capabilities that AMGEL, cost on average more than 250 thousand euros. Also, the estimated running cost for AMGEL is 1-1.5 euros/sample, **in contrast to 8.5 euros/sample for QIAsymphony of Qiagen for instance** (based on Qiagen average column cost/sample).

4. Compact size: AMGEL prototype is a stand-alone device to avoid using benchtop space standing at 2 m height, 1.5m length and 0.85 m wide which can fit even in a crowded average laboratory.

Collectively, AMGEL will innovate the way life-science research studies are performed since it will:

- Increase result reproducibility up to 100% due to robotic accuracy.
- Maximize efficiency up to 300% due to AMGEL full autonomy and remote access capabilities – will work non-stop (24hours 7days a week) without supervision – through remote access.
- Eliminate waste of samples and reagents by estimated more than 50%.
- Document 100% all procedures with pictures, video and sampling of each experiment for troubleshooting.
- Save time for researchers up to 5 hours a day due to execution of multiple tasks at the same time. According to our tests the overall pipetting speed of AMGEL ranges between 0.01 - 0.5 sec for transferring 1ul liquid from one well or tube to another.
- Enhance research documentation and data handling at a global scale since researchers who are using AMGEL will be able to share the protocols exactly as they were performed by the device, with high precision in time, volumes, concentrations, optimizations and other information that often are poorly reported in scientific publications.
- Automate laboratory procedures for any user who can easily build and run a new protocol or use a ready-made protocol from our **protocol library (under development).**

AMGEL competitive advantage, uniqueness, added value and business aspects are supported by a comprehensive **SWOT analysis (Table 3)**. With a strong scientific, business and network infrastructure, AMGEL is able to materialize the uniqueness of its features, compared to other competitive products and capitalize on the opportunities derived from the market gap identified. So as not to underestimate the threats faced by every innovative, highly scalable product, and realizing that the SWOT analysis constitutes only a starting point for strategic decisions, EFEVRE TECH LTD has targeted steps towards realizing the opportunities provided by AMGEL's strengths and alleviating the threats during the implementation of this project. Most importantly this SWOT illustrates all intellectual property protection actions, the strong and weak points of AMGEL marketing which need to be addressed accordingly and illustrates the current or targeted relationship of EFEVRE TECH LTD with suppliers/distributors/ service providers of AMGEL's components to ensure freedom-to-operate. *Table 3. SWOT analysis.*

Strengths	Weaknesses	Opportunities	Threats
Grant awarded product with TRL 7 output	Need significant funding for R&D	Ever-growing market for research automation	Technology advancement by competitors' R&D
Excellent Scientific, Business & Technical Infrastructure for achieving AMGEL marketability	Reduced branding value compared to established products	Gap between existing automations and customer needs	Key suppliers product modification and price rising costs
Competitive price tag	Complexity in backend robotics engineering	Ability to integrate new emerging technologies into the prototype and final product	Certification, IP & Patenting process might delay marketability
Endless applicability/ execution of variable laboratory procedures due to unique technical design (hardware and software)	Dependency on key suppliers	New technologies will allow lower costs	Client trust & product rating due to unforeseen quality of end results
Scalable model	Disruptive product which might need more time to gain customer trust than other established solutions	Idyllic testing ground in Cyprus' ecosystem	Key suppliers or after sales service providers dropout or difficulty to communicate or collaborate
Established manufacturing and distributing channels by providers of AMGEL components	Agreement with key suppliers and service providers is not finalized / under discussion the last months	Development of lasting B2B relationships through already signed letters of intent	Possible regional differences in implementation of a sale
Immediate interest from early adopters	Headquarters of EFEVRE TECH not in high value location		
IP secured by provisional patenting (Patent pending)			
All AMGEL hardware components are either Open-source or built for integration (all come from OEM suppliers of robots to the life science industry) – NO IP roadblocks are generated by their integration.			

Meet the Team !

Dr. Dimitris Kyriacou

CEO / Co-Founder

AMGEL's Ideator,

Scientist, Entrepreneur

- Ph.D. degree in Molecular Biology
- Design and development of AMGEL robotic platform.
- Product prototyping
- Systems integration and testing
- Coordination of the innovative Project STARTUPS/0618/0021 for the development of AMGEL to high-technology level
- Management of all financial, technical and marketing aspects of a 2.5 year Youth enterprise grant from Cyprus Ministry of Trade.
- Supervision and administration of employees (4), interns (4) and subcontractors involved in legal, accounting and technical services.
- Candidate for Cyprus research award Young researcher
- 1st price awards for Oral and Poster presentations.
- Scientific publications in high-impact peer-reviewed journals

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*Elaborated CVs on attached annexes

Meet the Team !

Antonios Inglezakis

CTO / Co-Founder

Electrical engineer and computer expert

- Design and development of AMGEL robotic platform.
- Product prototyping
- Systems integration
- Embedded Systems programming
- Printed Circuit Board Design
- AVR and ARM platform programming
- Systems Automation
- Bluetooth Low Energy and WiFi systems design
- Extensive knowledge on UART, I2C, SPI serial bus.
- Programming languages (C, C++, Java, Python, MATLAB, NesC, Ladder(dated))

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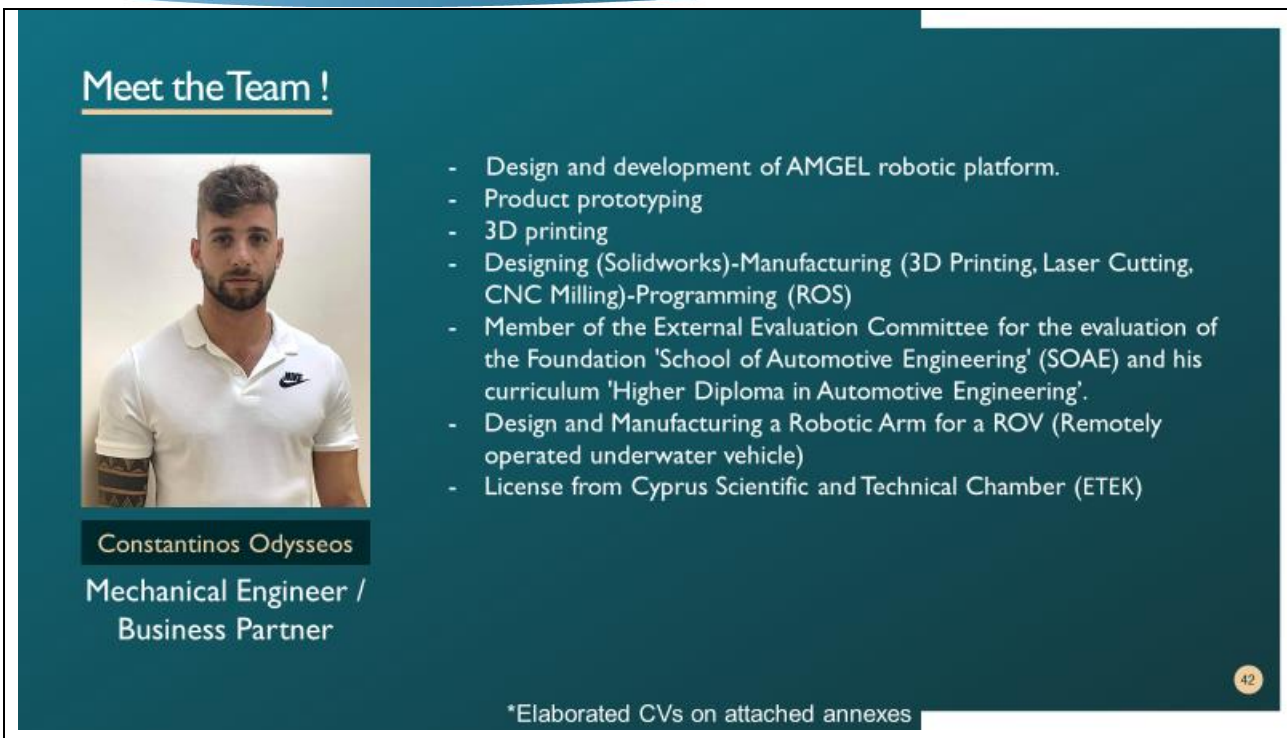
*Elaborated CVs on attached annexes



Required product specifications, technical capabilities or expertise <u>of the potential partner</u> (<u>not of your company</u>)

- What kind of products/services could be suitable?
- Are there some specific requirements to take into consideration (temperature, pressure, size, etc)?
- Clearly indicate any technical requirements/ competencies

-**Strategic investors:** Focus on Life-science research, Diagnostics, Medical devices, Biomedical engineering

-**Distributors** of laboratory equipment for research and diagnostic centers in the healthcare sector

-**Service providers:** Robotic experts or Electrical engineering or Mechanical engineering or Healthcare laboratory technicians

IPR Status: To be completed only if your product/service falls within one of the following

☐ Copyright ☐ Design Rights ☒ Exclusive rights ☐ Granted patent or patent application essential ☐ Other	☒ Patent(s) applied for but not yet granted ☐ Patents granted ☐ Secret Know-How ☒ Trademarks

Comments Regarding IPR Status:

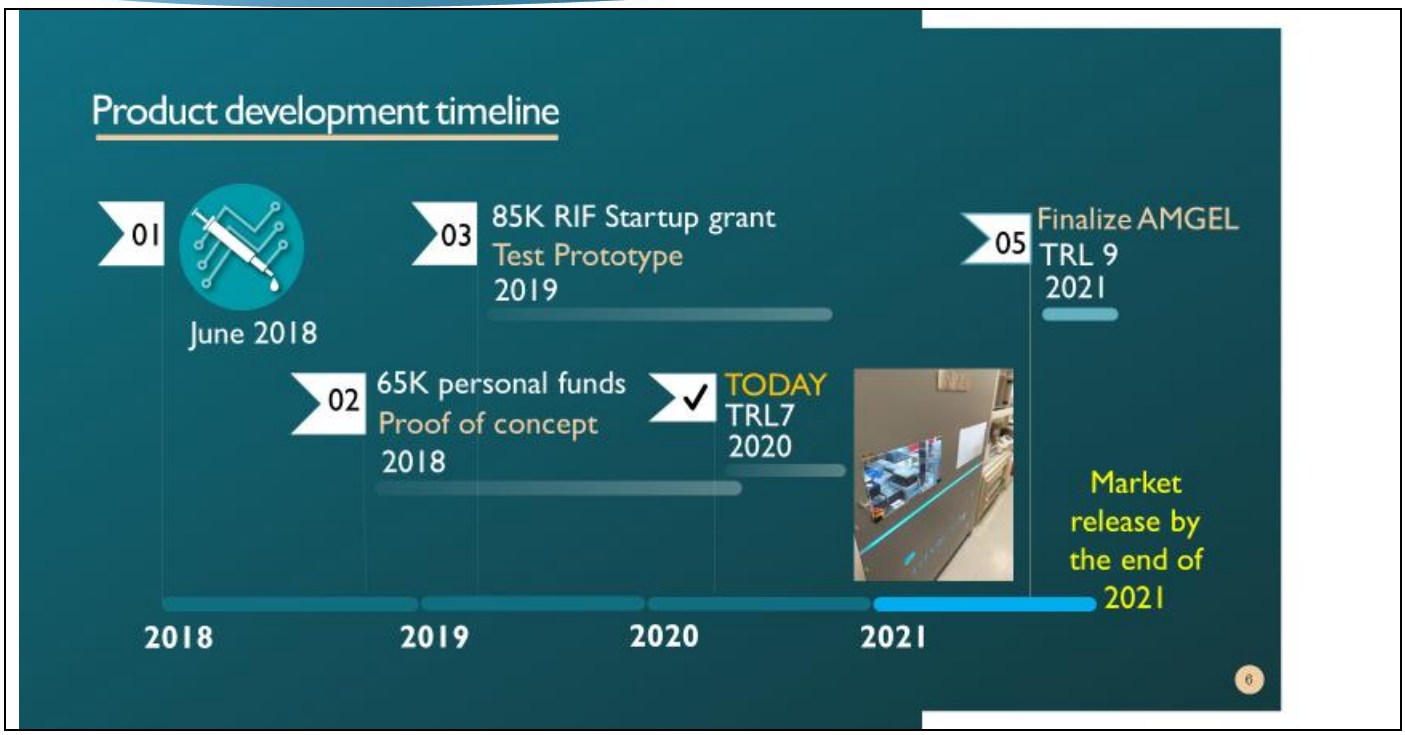
IPR assets and ways to protect them: AMGEL development as an idea, design, implementation, cost, and commercialization was created from scratch by the two owners of the company, thus securing the IPs was priority from the beginning. **A US provisional patent is already issued for AMGEL** (Application Number 62993393), and we will submit application for provisional patent in Germany and United Kingdom within the next two months. We have secured all IP rights through signed agreements with all business partners. We have already secured confidentiality agreements with all early-adopters and other collaborators who will participate in the implementation of this project. In addition, a contract is signed between EFEVRE TECH LTD and UCY that ensures that all knowledge for technological advancement generated during AMGEL's testing at UCY facilities and all rights for economic exploitation are retained by EFEVRE TECH LTD. The technological outcome (hardware and software) will be branded with the company's trademark/copyright following all the necessary steps suggested by the local and EU authorities. Non-provisional patent application for Utility and Design, and software copyrights will be secured within the next 18 months.

Stage of Development:

☐ Already on the market ☐ Available for demonstration ☐ Concept Stage ☐ Field Tested/ Evaluated ☐ Project Already Started	☐ Project in Negotiations- Urgent ☐ Proposal under development ☐ Prototype available for demonstration ☒ Under development/ lab tested

Comments Regarding Stage of development:

Product maturation: Since its establishment in 2018, EFEVRE TECH LTD has dedicated all the necessary expertise and resources to finance and develop the first fully functional AMGEL prototype. The project was supported with 65 thousand euro personal investments and 2 awarded grands (Nov. 2018 and May 2019) totaling approximately 120 thousand euros. In order to generate the Minimum Viable Product (MVP), we will need to add the final hardware and software components of AMGEL within 12-15 months from the time we receive funding.



Target Countries:

☒	**All** (EU Member States + Third countries)
	If not all please <u>underline</u> the countries that you are interested in from the list below: <u>EU Member States:</u> Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom <u>Third Countries:</u> Albania, Armenia, Bosnia Herzegovina, Canada, Chile, China, Croatia, Egypt, FYROM, Iceland, India, Israel, Japan, Mexico, Moldova, Morocco, Montenegro, Norway, Russia, Serbia, South Korea, Switzerland, Tunisia, Turkey, Ukraine, USA

PARTNER SOUGHT

Type of Partner Sought:	☐ Manufacturing ☒ Services ☒ Trading (Buying/ Selling) ☒ Multinational Enterprise (MNE)	☐ Inventor ☐ R&D institution ☐ University

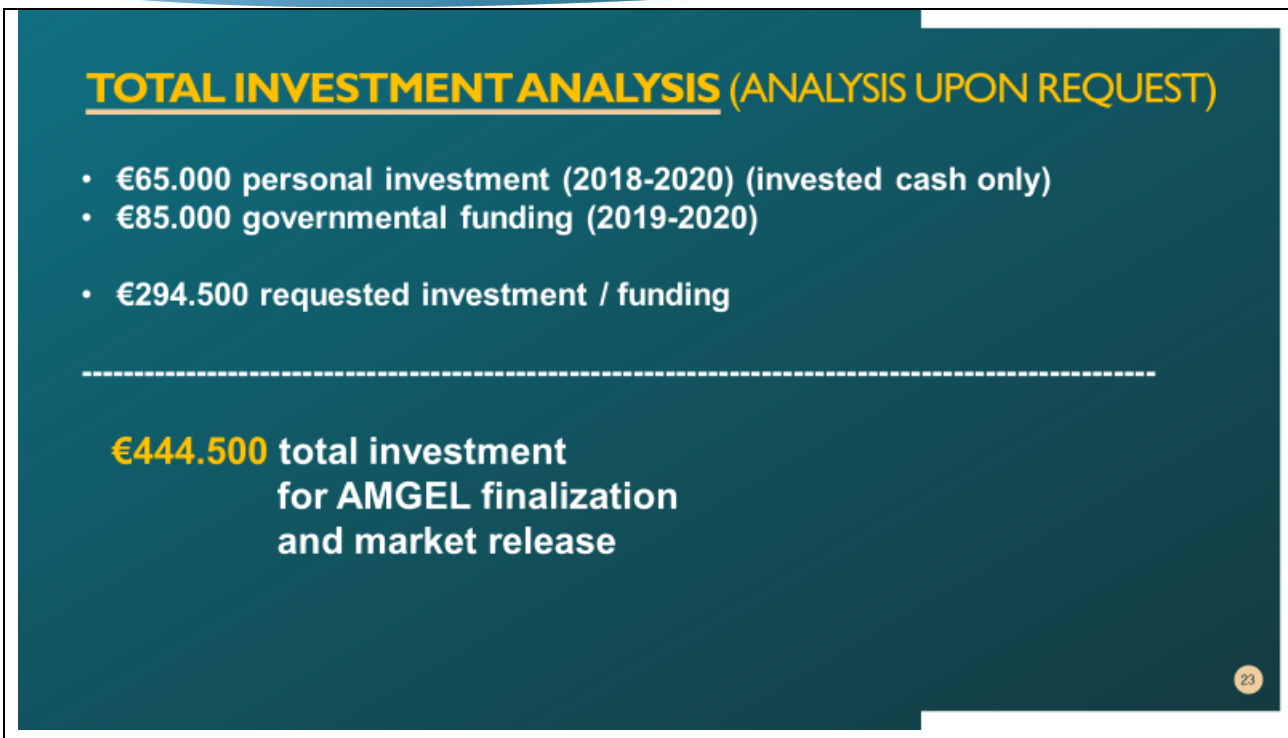
Type and Size of Partner Sought: **(Multiple fields can be selected)**	☒ SME < 10 ☒ SME 11-50 ☒ SME 51 – 250 ☒ 251-500 ☒ >500	☒ >500 MNE ☐ Inventor ☐ R&D Institution ☐ University

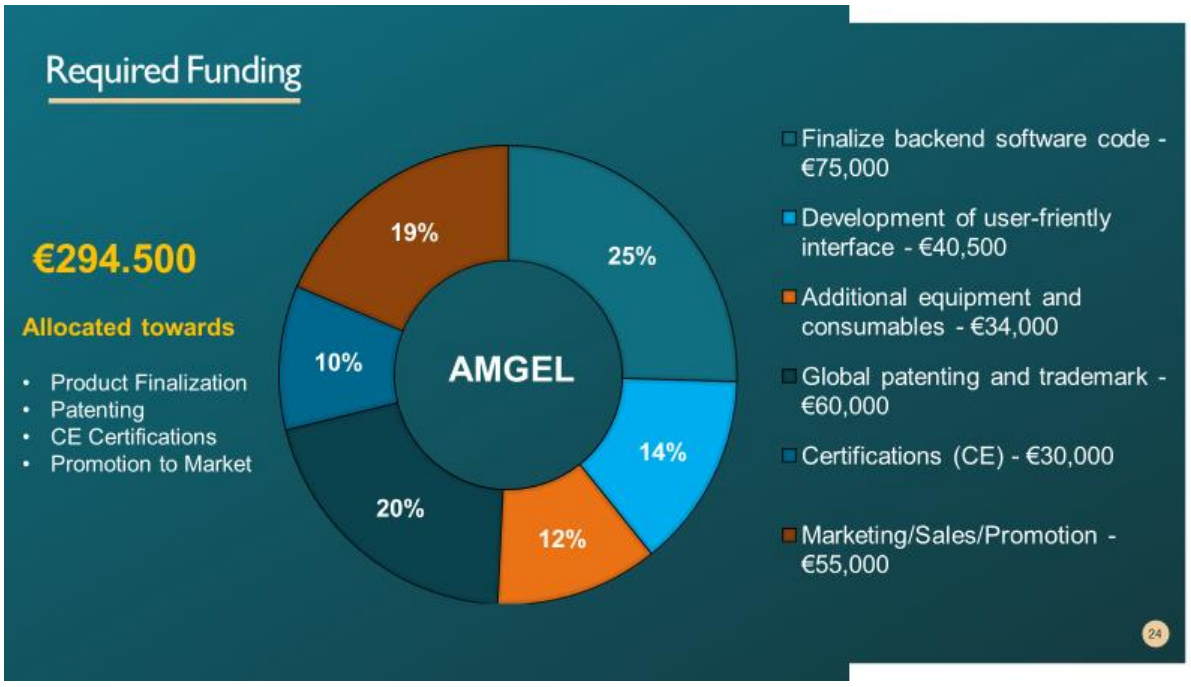
Type of Partnership Considered (Definitions are provided in Annex I)	
Commercial agency agreement	☒
Distribution services agreement	☒
Services agreement	☒
Franchise agency agreement	☒
Joint venture agreement	☐
License agreement	☐
Manufacturing agreement	☐
Outsourcing agreement	☐
Financial agreement	☒

Activity & Role of Partner Sought (Make sure that this field is coherent with the selected cooperation types)

- Describe the field of the activity of the desired partner
- Describe the qualities/expertise it should have
- Describe what the partner is expected to do

-Strategic investors: Focus on Life-science research or Diagnostics or Medical devices or Biomedical engineering or related fields
Support AMGEL finalization and marketability through financing and counselling.





-Distributors of laboratory equipment for healthcare research or diagnostics to collaborate with EFEVRE TECH LTD for distributing AMGEL in EU or Israel, educate users and provide customer support

-Service providers: Robotic experts or Electrical engineering or Mechanical engineering or Healthcare laboratory technicians for assembly of AMGEL at customer site and technical support in case of technical fail or upgrade to customers in EU or Israel.

ANNEX I

Choose from the below tables, the most appropriate types of collaboration by ticking (√) on the box. Please read carefully the definitions!!

Commercial agency agreement **An agreement establishing a fiduciary relationship whereby an agent represents a principal and may take actions that bind the principle legally. Payment to the agent is usually made in the form of a commission on sales.**		
OFFER	**You are looking for an agent to represent your products or services**	☒
REQUEST	**You are willing to act as an agent to represent other companies' products or services**	☐
Distribution services agreement **An agreement between a company in need of having its products distributed. The distribution agreement can be exclusive or not. A distributor is a company that buys and sells products from another company.**		
OFFER	**You are looking for a distributor to sell your products**	☒
REQUEST	**You are willing to act as a distributor to sell other companies' products**	☐
Franchise agency agreement **A franchise is the right to market or sell goods or services under the trademarked name, or patented process, of an established business. Under a franchise agreement, the franchisee is permitted and encouraged to use the trademarks and brand name of the franchisor as part of its everyday business practices, but must follow specific guidelines. The franchisor also provides marketing and training support to help the franchisee succeed.**		
OFFER	**You are offering your trademark or process to potential franchisees**	☒
REQUEST	**You want to become a franchisee**	☐

Services agreement **An agreement between two entities where one agrees to provide a specified service to the other.**		
OFFER	**You are offering a service**	☐
REQUEST	**You are looking for someone to perform a specific service**	☒
Manufacturing Agreement **An agreement between a company which has developed a product and a manufacturer with the eye on production of the product.**		
OFFER	**You are offering to manufacture certain products**	☐
REQUEST	**You are looking for manufacturers of certain products**	☐
Outsourcing agreement **An agreement between a company and a service provider in which a business process is contracted out to the service provider.**		
OFFER	**You are offering to perform a service (a business process) within the frame of an outsourcing contract**	☐
REQUEST	**You are looking for companies to which they could outsource part of their business process**	☐
Financial agreement **An investment agreement in a project or endeavour. It can take the form of a loan or a partial transfer of shares for example.**		
OFFER	**You are looking for investors in your company/ project**	☒
REQUEST	**Your want to invest in another company**	☐
Joint Venture agreement **A business agreement whereby two companies decide to develop a new entity, usually for a well-defined period of time or for a specific project. Both parties contribute in terms of equity to the creation of this temporary partnership.**		
OFFER	**You have a specific project and you are looking for a partner**	☐
REQUEST	**You are looking to join a partner with a specific project**	☐