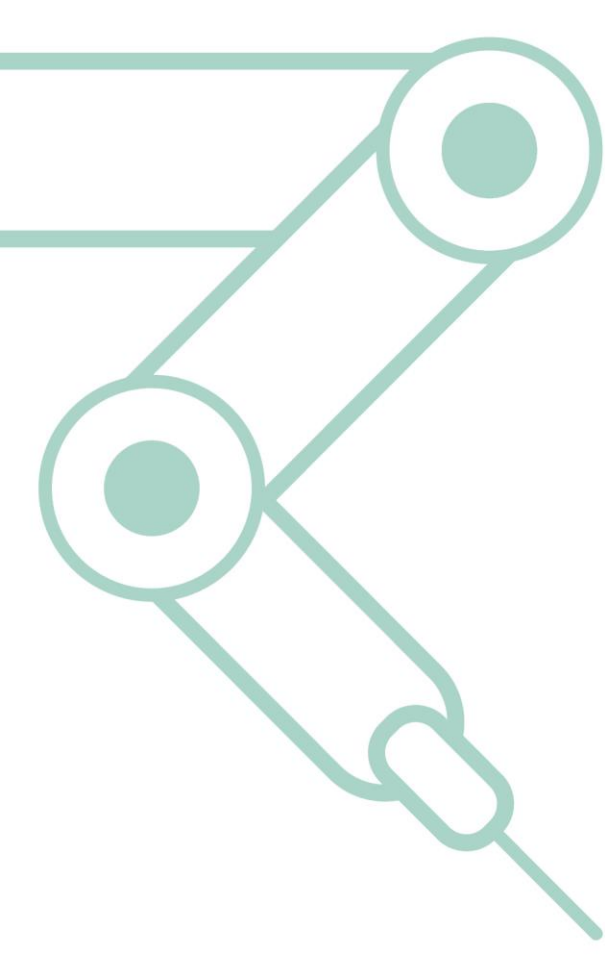


Launch event of the Preliminary Market Consultation of the TREMIRS project

Minimally invasive robotic surgery systems

Public Procurement of Innovation
Minimally Invasive Surgery Center Jesus Usón
21 April 2021





Agenda

This project has been funded by the Science and Innovation Ministry and the Junta de Extremadura through the project TREMIRS CPI-2019-33-1-TRE-14 and co-funded by the European Fund for Regional Development (ERDF) "A way to make Europe"





- **10:00 - 10:10 Institutional presentation**
D. Jesús Alonso Sánchez, Secretary General of Junta de Extremadura on Science, Technology, Innovation and University
- **10:10 - 10:25 Background of the Project and the CCMIJU Foundation**
Dr. Francisco Miguel Sánchez Margallo, Scientific Director of the CCMIJU Foundation and Principal Investigator
- **10:25 - 10:40 Description of the challenges within the project**
Mr. Juan Alberto Sánchez Margallo, Researcher in the unit of Bioengineering and Sanitary technologies of the CCMIJU Foundation and Tremir's Project Manager
- **10:40 - 10:50 Presentation of the Preliminary Market Consultation.**
Ayming
- **10:50 - 11:30 Q/A session**
Moderated by Ayming
- **11:30 End of the event**



Recommendations



Stick to the allotted time for each block



Silenced microphones, except the speakers



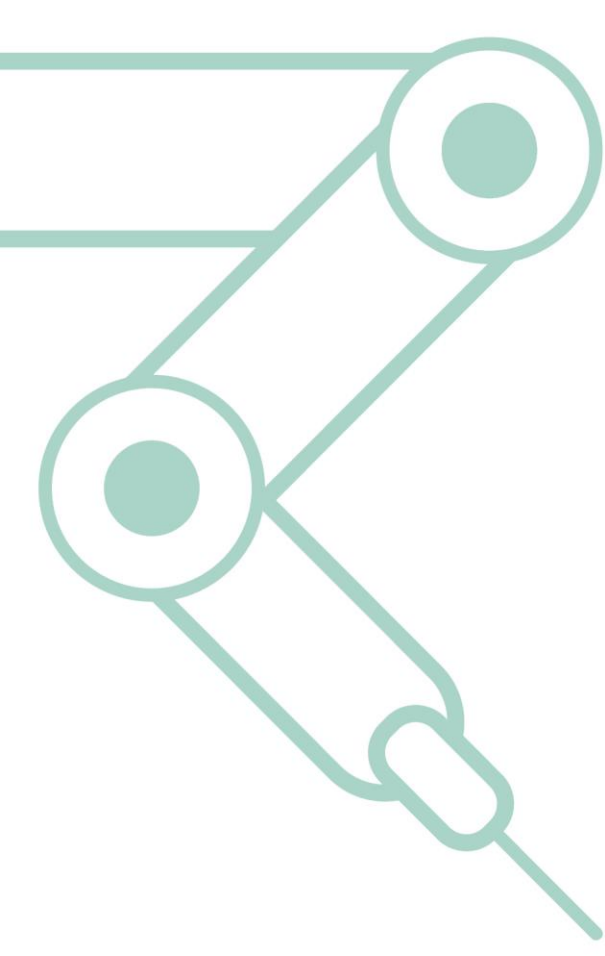
Deactivated cameras, except the speakers



Type in the chat any question you might have



This seminar is being recorded and the video will be available on the project's website.



Background of the Project and the CCMIJU Foundation

Dr. Francisco Miguel Sánchez Margallo, Scientific Director of the CCMIJU Foundation and Principal Investigator

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Objective

To meet the needs of the Healthcare Systems in the field of minimally invasive surgery through the development of innovative solutions in surgical robotics that improve the systems already existing in the market for their application in laparoscopic surgery and microsurgery.





Specific objectives

- To offer a better service to the patient
- Better features for the surgical team
- To improve the surgeon's ergonomics
- To offer innovative training solutions in robotic surgery





Public R&D institution



Objectives: Research, training and innovation in the healthcare field

Scientific Units

- Laparoscopy
- Endoscopy
- Microsurgery
- Endoluminal Therapy and Diagnosis
- Anesthesiology
- Pharmacology
- Bioengineering and Medical Devices
- Stem Cell Therapy
- Assisted Reproduction

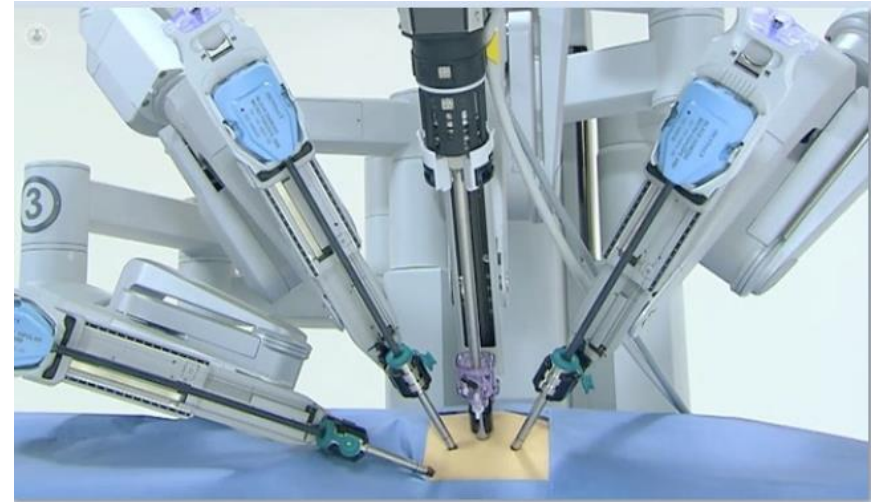


Surgical robotics

Robotic surgery or robot-assisted surgery

Advantages

Complex surgical procedures with greater **precision, flexibility and control** compared to conventional techniques.





Laparoscopic surgery

Performed through small incisions (surgical ports) in the abdominal wall.

Its uses specialized surgical instruments and an intracorporeal camera (laparoscope).

Advantages

- Less traumatic surgeries (less pain)
- Shorter recovery time (shorter hospital stay)
- Better cosmetic results

Disadvantages

- 2D vision. Loss of depth perception
- Restriction of movements for the surgeon
- Ergonomics





Laparoscopic robotic surgery

Robotic surgery or robot-assisted surgery

Advantages

- 3D vision
- Greater precision
- Tremor control
- Ergonomics

Disadvantages

- Costs (purchase and maintenance)
- Application in new surgical approaches
- Exclusive benefit for the main surgeon
- Lack of scientific evidence (surgical outcomes)





Microsurgery

It requires a surgical microscope (visual magnification) and precision instruments.

Advantages

To operate small anatomical structures (e.g. vascular and nervous structures).

Disadvantages

- Limitations of human precision
- Possible tremors
- Ergonomics





Surgical robotics in microsurgery

Advantages

- Filtering of tremors
- Scaling of movements
- Better ergonomic posture for the surgeon

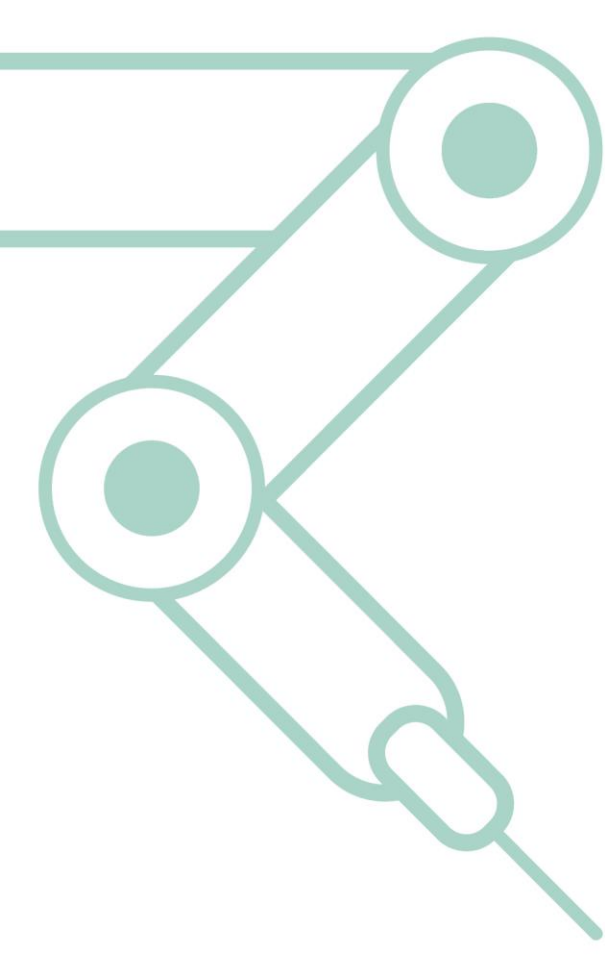
Disadvantages

- Few platforms available on the market
- Applications to lymphatic microsurgery





Francisco M. Sánchez (CCMIJU Scientific Director. Principal Investigator)
Luis Casas Luengo (CCMIJU Managing Director. Responsible Economic Management)
Juan A. Sánchez (Bioengineering. Project Manager)
José Castillo (Bioengineering Technician)
Carlos Plaza (Bioengineering Technician)
Isabel López (Laparoscopy Technician)
Manuel Ramón González (Laparoscopy Technician)
Elena Abellán (Microsurgery)
Laura Cristina Pires (Microsurgery Technician)
Myriam Fernández (Operating Room Technician)
José Luis Añover (Legal Department)
Elisabet Tamargo (Administrative Assistant)



Description of the Project's challenges

Dr. Juan A. Sánchez Margallo, Researcher of the
Bioengineering and Health Technologies Unit of the
CCMIJU Foundation and Project Manager

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- **Application for new surgical techniques and approaches**
- **Ergonomic limitations to be solved**
- **Functionalities for the entire surgical team**
- **Portable online training solutions**



Address the limitations of existing robotic surgical systems on the market for both laparoscopic surgery and microsurgery in order to offer a **better service to the patient, better ergonomics to the surgeon and greater features for the surgical team**, with the consequent improvement in the quality of care provided.

TREMIRS

CHALLENGE 1. ROBOTIC PLATFORM FOR LAPAROSCOPIC SURGERY
CHALLENGE 2. ROBOTIC PLATFORM FOR MICROSURGERY



CHALLENGE 1. ROBOTIC PLATFORM FOR LAPAROSCOPIC SURGERY

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Main objective

- A **robotic platform** that optimizes the conditions during surgery for the patient, the surgeon, the surgical team and the medical professionals undergoing training in surgical robotics.
- To present **innovative solutions** to address the main limitations of current robotic systems.



Specific objectives:

- Provide greater **precision, maneuverability and quality** in minimally invasive surgical procedures.
- Application to **new surgical procedures and approaches**.
- Improve and personalize **surgeons' ergonomic conditions** (reduction of possible musculoskeletal disorders and their effects).
- Provide **new surgical assistance tools** to the entire surgical team (3D, virtual, augmented and mixed imaging).
- Offer new **portable tools for remote training** in robotic laparoscopic surgery.



Areas of application

- Improvements in surgical instruments
- New surgical approaches and/or procedures
- Surgeon ergonomics
- Surgical assistance tools
- Online training tools



CHALLENGE 2. ROBOTIC PLATFORM FOR MICROSURGERY

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Main objective

- **Teleoperated and portable robotic platform** for open microsurgery procedures with articulated and interchangeable micro-instruments.
- Set of **robotic micro-instruments with high maneuverability and precision**, operated in an intuitive fashion.
- **Manipulation of small soft tissues** to perform microsurgical procedures (anastomosis, suturing and ligation) on small anatomical structures (blood vessels, nerves and lymphatic ducts).
- **Compatible** with most **microsurgical optical microscopes**.



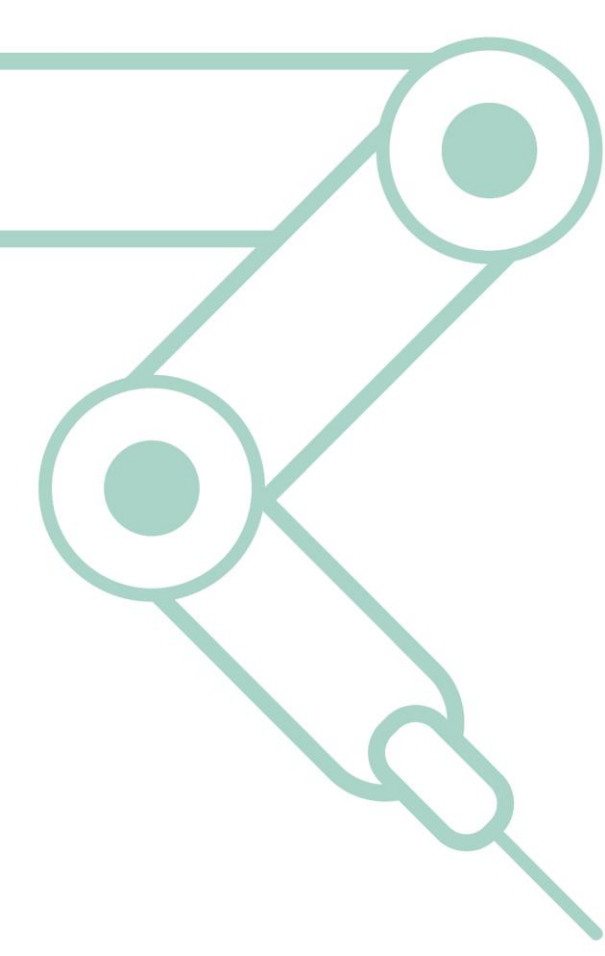
Specific objectives

- Definition of the **clinical and technical specifications** of microsurgical instruments.
- Design and implementation of a **set of multi-jointed robotic micro-instruments** for vascular and lymphatic surgery.
- Design and implementation of the **intuitive and ergonomic control system** of the robotic micro-instruments.
- Enable to **reduce the surgeon's physiological tremors** and the **scaling of surgical movements**.
- **Validation of the teleoperated platform** for basic microsurgical procedures.



Areas of application

- Articulated micro-instruments
- Intuitive and ergonomic console
- Tremor filtering and movement scaling during surgery
- Vascular and lymphatic microsurgical procedures



Presentation of the PMC

Ayming

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PPI basic concepts

Preliminary Market Consultation

How do I participate?

Next steps and conclusions



On a very complex and fast changing environment, PPI is the tool to encourage innovation on the public sector with a very important role on innovation and technology development from companies





Strategic relevance of PPI



PUBLIC SECTOR

- Public administration becomes the engine for innovation
- Access to specific European founding dedicated to innovation
- Cost saving on short, medium and long term (up to 85%)
- Increase of reputation
- Incorporates new services suppliers
- Develops knowledge and capacities
- Obtains benefits through the commercial operation of patents or mixed enterprises



- Increase the development of innovative technologies, products and services trough PPI
- More efficiency and effectiveness on public services
- Enhances the quality of life for the citizens



BUSINESSES

- Companies stay ahead of the market
- Apply the investigations on real environments and commercialize ideas
- Understanding of the challenges and priorities of the public sector, orientation of their R&D investment
- Increase of reputation (Reference client)
- Cost reduction through access to regional, national or European funding related to innovation.
- Turnover increase
- Obtain benefits through the commercial operation of patents or mixed enterprises



- Positive impact on the profit and loss account

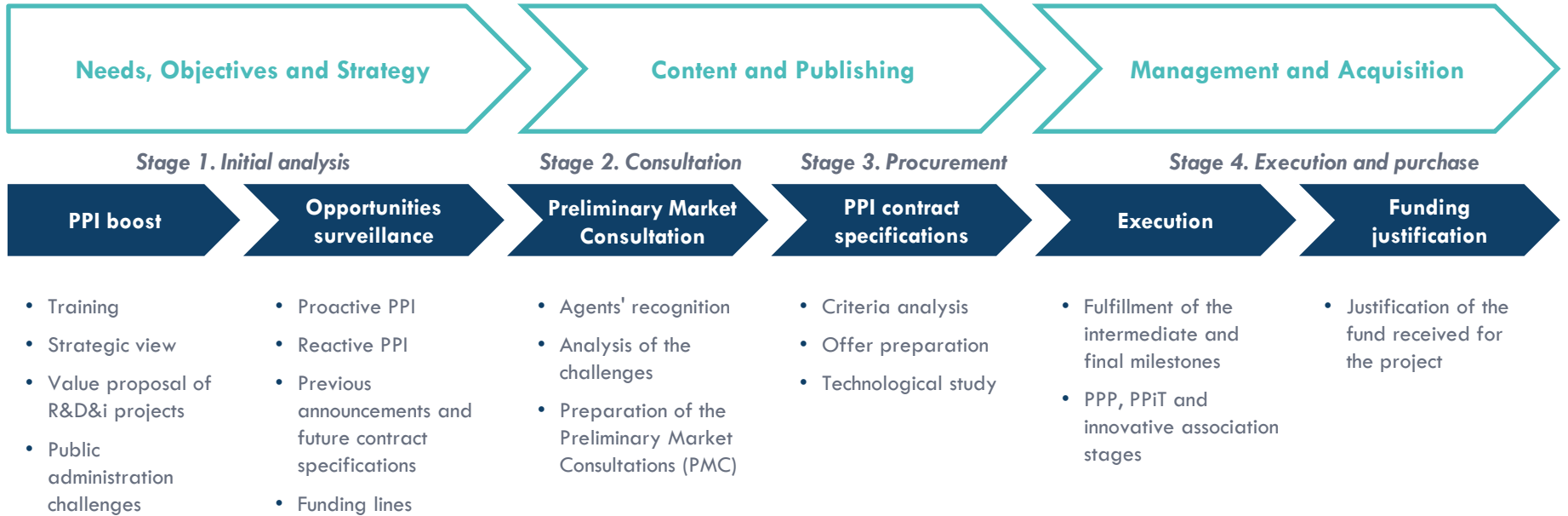


Presentation of the PMC

Preliminary Market Consultation

PPI Cycle

What are the key stages?



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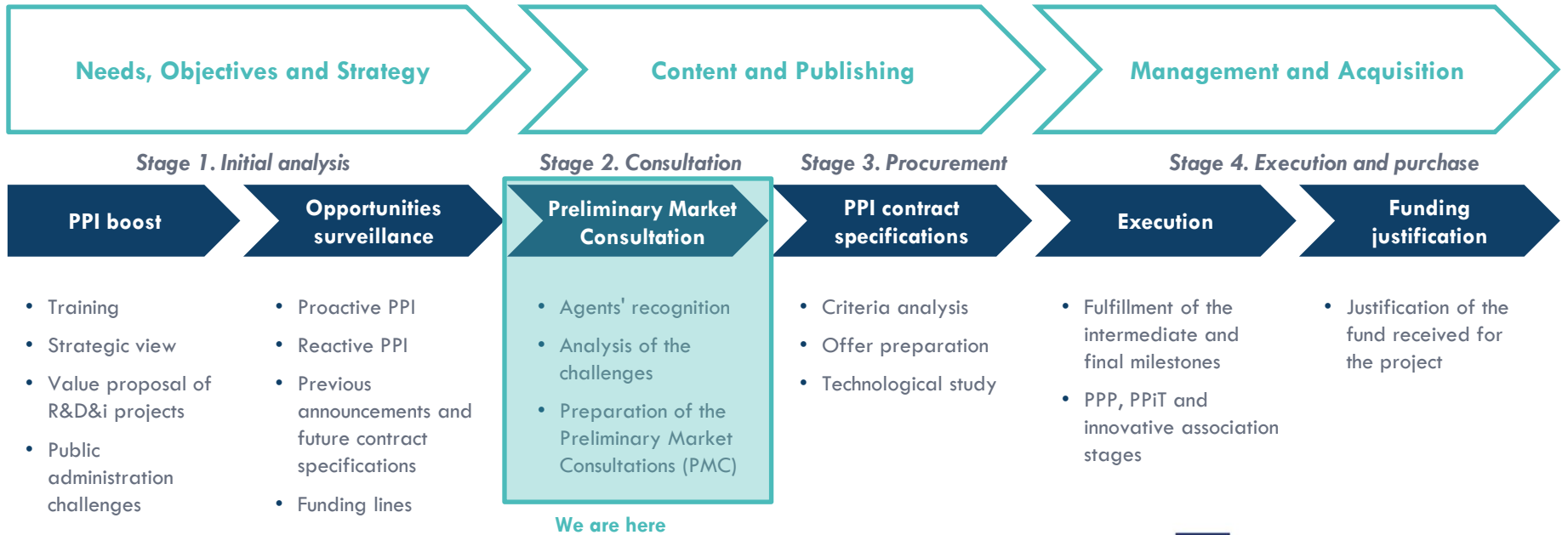


Presentation of the PMC

Preliminary Market Consultation

PPI Cycle

What are the key stages?



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Presentation of the PMC

Preliminary Market Consultation

Some considerations about the Preliminary Market Consultations

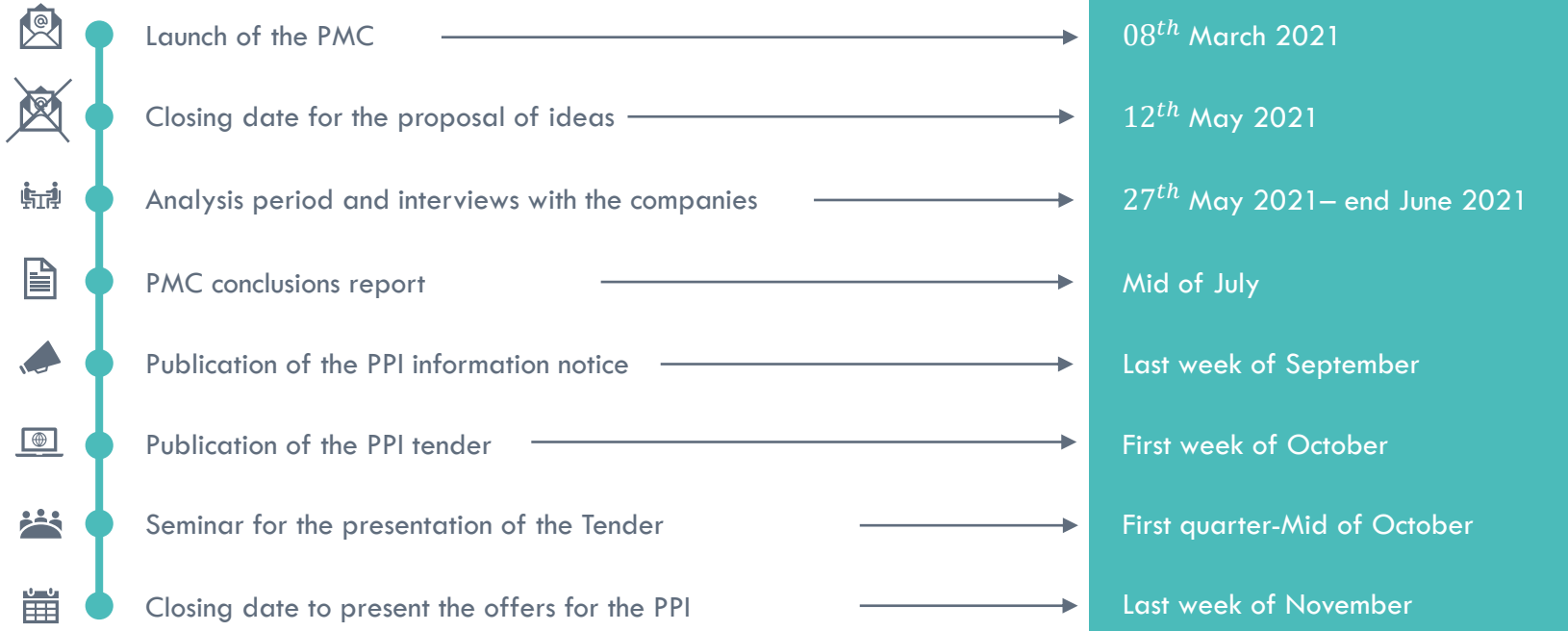
- PMCs are regulated by the **article 115 of the Spanish Public Procurement Law (Ley de contratos del sector público 9/2017)**. (Transpose of Directives 2014/23/UE y 2014/24/UE).
- It is a **good practice** associated to any type of procurement. Not only for PPI.
- It allows for a **technical dialogue with the market**
 - To understand the capacities of the market for the **challenges** raised.
 - Inform the market agents about the **plans and requirements** of the future contract.
- It is part of the **contracting record** (pre-contractual stage)
- Being part of the contracting record, it has to fulfill the basic **principles of the law for Public Procurement**
- It is an **open call** for legal and natural persons with the will to participate and interest in sharing knowledge
- It is **not binding with the future procurement** (not for the public administration or the market agent or person)



Presentation of the PMC

Preliminary Market Consultation

Stages of the Preliminary Market Consultation and next steps



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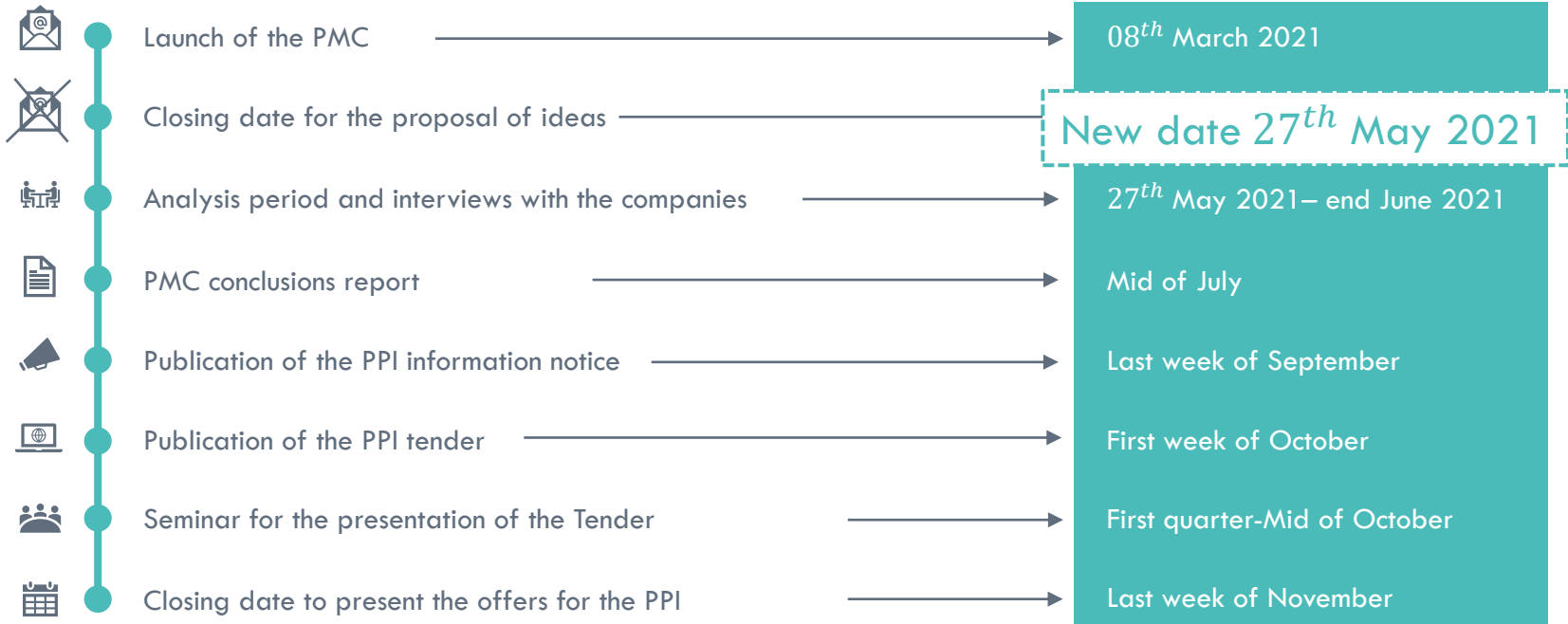




Presentation of the PMC

Preliminary Market Consultation

Stages of the Preliminary Market Consultation and next steps



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Presentation of the PMC

How do I participate?

BEFORE 27TH MAY:



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Presentation of the PMC

How do I participate?

1. ACCESS THE CONSULTATION

2. COMPLETE THE FORM

3. SEND YOUR PROPOSAL

You can find all the information related to the PMC on the following websites:

[Public Procurement platform](#)

PLATAFORMA DE CONTRATACION DEL SECTOR PUBLICO

Inicio Publicaciones Perfil Contratante Empresas Organismos Públicos Verificar CSV

Lista Perfiles

Perfil del Contratante **Documentos** Licitaciones Contratos Menores Encargos a medios propios

- Previsiones de contratación
- Otros documentos
- Consultas preliminares de mercado
- Consultas preliminares del mercado para CPI proyecto "TREMIRS"**

Nombre del documento	Formato	Fecha
Convocatoria CPM 01/2021	(Descargar)	08 Mar 2021
Anexo 2 Convocatoria CPM 01/2021	(Descargar)	08 Mar 2021
Anexo 1 Convocatoria CPM 01/2021	(Descargar)	08 Mar 2021
PRELIMINARY MARKET CONSULTATION CALL DOCUMENT	(Descargar)	30 Mar 2021
REF: CPM01/2021		
ANNEX 1: CPM01/2021	(Descargar)	30 Mar 2021
ANNEX 2: CPM01/2021	(Descargar)	30 Mar 2021
Modificación Anexo 1: CPM 01/2021	(Descargar)	30 Mar 2021
Modificación Anexo 2: CPM01/2021	(Descargar)	30 Mar 2021
Modificación Nota Informativa Próxima CPM TREMIRS	(Descargar)	30 Mar 2021
Modificación Convocatoria CPM 01/2021	(Descargar)	30 Mar 2021

[CCMIJU Foundation Website](#)

CCMIJU Formación Investigación Servicios Tienda Contacto

Consulta Preliminar al Mercado del proyecto CPI TREMIRS

Proyectos de Investigación Líneas de Investigación Publicaciones Patentes Plataformas tecnológicas Acuerdos COECS TREMIRS

Antecedentes (resumen del proyecto)

El proyecto TREMIRS "Sistemas de cirugía robótica de mínima invasión" tiene como principal objetivo resolver las necesidades del Sistema Sanitario Extremeño y Español en el ámbito de la cirugía mínimamente invasiva mediante el desarrollo de soluciones innovadoras en robótica quirúrgica que mejoren los sistemas existentes en el ámbito de la cirugía laparoscópica y microcirugía. Este proyecto busca mejorar el servicio prestado al paciente, mejorar ergonomía del cirujano y ofrecer mayores prestaciones al equipo quirúrgico, con el consiguiente aumento en la calidad asistencial.

Durante los tres años de duración del proyecto, se desarrollará una plataforma robótica para cirugía laparoscópica que facilitará nuevos abordajes quirúrgicos, mejoras en la ergonomía de los cirujanos, avances en los sistemas de visión para todo el equipo quirúrgico y la disponibilidad de nuevas herramientas de formación portables.

Enlace al documento de la convocatoria

Anexo 1

Anexo 2

[Project TREMIRS Website](#)

www.tremirs.com

Fases del proyecto

El proyecto se organiza en cuatro fases de ejecución.

- Consulta preliminar**
- Licitación**
Elaboración de los
- Desarrollo y validación**
- Resultados**
Presentación de los

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Presentation of the PMC

How do I participate?

1. ACCESS THE CONSULTATION

2. COMPLETE THE FORM

3. SEND YOUR PROPOSAL

The documentation available to download both on English and Spanish is:

- Call
- Templates
- FAQ
- Presentations
- Videos



ANEXO 1.- FORMULARIO DE PARTICIPACIÓN RETO ROBÓTICA PARA CIRUGÍA LAPAROSCÓPICA

1.- DATOS DEL SOLICITANTE

Empresa/Organismo*		
Persona Física*	<input type="checkbox"/>	
Persona Jurídica*	<input type="checkbox"/>	
Propuesta conjunta de varias personas físicas o jurídicas*	<input type="checkbox"/>	
Sector o ámbito de actividad (ICAE)*		
Principales actividades de la entidad		
Tamaño de su entidad en la actualidad (Nº de personas en la plantilla)		
	2020	2019
Facturación total de su entidad en los últimos años		
Nombre y Apellidos de interlocutor (o representante en caso de solución conjunta)*		
Cargo del interlocutor		
Teléfono de contacto*		
Correo electrónico*		

DATOS BÁSICOS DE LA PROPUESTA

Título de la propuesta*	
¿Tiene intención de presentar o futuras licitaciones relacionadas con el reto o retos o los que está aplicando?*	<input type="checkbox"/> Sí <input type="checkbox"/> No
* Campo a rellenar obligatorio	



BLOQUE 1. PLATAFORMA ROBÓTICA PARA CIRUGÍA LAPAROSCÓPICA

Este bloque tiene como objetivo identificar los aspectos generales que deben definir la plataforma robótica para cirugía laparoscópica a desarrollar en el proyecto TREMIRS.

Para cada apartado, complete o valore (del 1 -muy importante- al 5 -esencial-) el grado de necesidad de cada uno de los criterios indicados.

1.1. Aspectos generales de la plataforma	Valoración
La plataforma debe ser teleoperada (Valor del 1 al 5)	
La plataforma debe ser portable (operar en establecimiento dentro del quirófano y extra quirófano flexible) (Valor del 1 al 5)	
Forma de transporte la plataforma (Por favor, comentar)	
Compatibilidad con el entorno quirúrgico (Valor del 1 al 5)	
La plataforma debe ser modular (con brazos independientes) (Valor del 1 al 5)	
Número de brazos mínimos de la plataforma (Por favor, comentar)	
Tipos de brazos mínimos que permite la plataforma (Por favor, comentar)	
Tamaño máximo de la plataforma (Alto x Ancho x Profundidad) (Por favor, comentar)	
Rango de acción máxima que debe alcanzar cada brazo (Por favor, comentar)	
Rango máximo de cada brazo, rotación en base, en caso de disponer de eje (Alto x Ancho x Profundidad) (Por favor, comentar)	
Forma de transporte de la plataforma (Por favor, comentar)	
Forma de transporte de cada dispositivo móvil de la plataforma (Valor del 1 al 5)	
La plataforma debe tener capacidad de la gestión por PC o PC como dispositivo móvil de uso quirúrgico (Valor del 1 al 5)	
Nota: TLR: del 1 (no se aplica la plataforma base) (Por favor, comentar)	
Nota: TLR: que será convenientemente aplicadas en el proyecto (Por favor, comentar)	
La plataforma robótica debe permitir "tejar" o soldar determinadas tareas o procedimientos de forma autónoma (Valor del 1 al 5).	
En caso afirmativo, por favor, detalle estas tareas/procedimientos en el apartado de "Consideraciones técnicas a desarrollar"	

* TLR (Technological Readiness Level) - Nivel de madurez tecnológica
<https://ec.europa.eu/programmes/erasmus-plus/en/about/erasmus-plus-2014-2020>
www.erasm+.eu/

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Presentation of the PMC

How do I participate?

1. ACCESS THE CONSULTATION

2. COMPLETE THE TEMPLATE

3. SEND YOUR PROPOSAL

Key aspects on the participation form for the PMC (Annex 1 y 2)

Challenge 1. Robotic platform (RP) for laparoscopic surgery(Annex 1)

- General information
- Block 1 1: PR for laparoscopic surgery
 - General aspects and platform's functionalities
 - General aspects and functionalities of the robotic surgery tools
- Block 2: Visualization and surgery assistance system
 - General aspects
 - Image technology
 - Recording system
 - Surgery assistance system
- Block 3: Command console
 - General aspects and functionalities
 - Ergonomic aspects
- Block 4: Online training tool
 - General aspects and functionalities
- Additional information block
 - Estimated budget for each block
 - Indicate disposition block to participate

Challenge 2: Robotic platform (RP) for microsurgery (Annex 2)

- General information
- Block 1: RP for microsurgery
 - General aspects and platform's functionalities
- Block 2: Robotic microtools
 - General aspects and functionalities
- Block 3: Command console
 - General aspects and functionalities
 - Ergonomic aspects
- Additional information block
 - Estimated budget for each block
 - Indicate disposition block to participate



Presentation of the PMC

How do I participate?

1. ACCESS THE CONSULTATION

2. COMPLETE THE TEMPLATE

3. SEND YOUR PROPOSAL

Send your proposal to the following e-mail adress:

concursos@ccmijesususon.com

Include on the subject "**CPM – TREMIRS + proposal title**" (it can be an acronym or the name of the legal or natural person that participates)

* On this e-mail they will specifically express their interest to participate on the PMC



Next steps by the CCMIJU Foundation after the closing date for the proposals to the PMC:

1. Analysis of the information in every form i received properly fulfilled
2. Preliminary revision of the ideas and request of additional information or meetings
3. Analysis of the additional ideas proposed according to the following criteria
 1. Level of innovation
 2. Adequation of the idea to the challenge
 3. Opportunity for development and replicability
4. Determination of inclusion in the contract specification of the future tender
5. Publication of the final report of the CPM

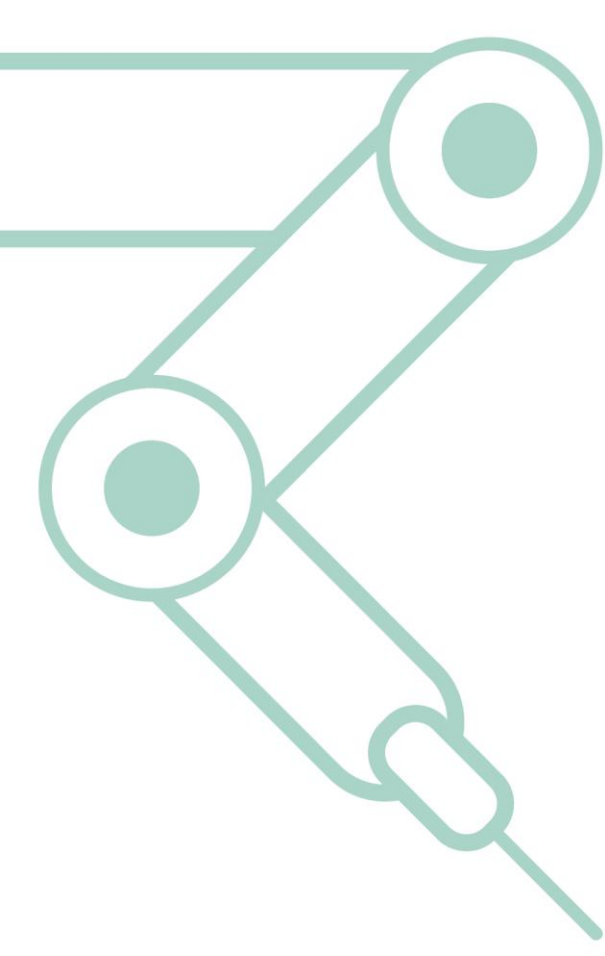


Importance of participating on the PMC

- PMC is key since it establishes the **basis for the elaboration of the contract specifications** (scope, contract requirements and budget)
- Also, the ERDF co-funding implies the fulfilment of **deadlines within the period**

Value of the PMC on the development of the project

- PMC generates **positives aspects in the project**:
 - i) **Dialogue** between the public administration and the companies to generate ideas and solutions
 - ii) **Publicity, transparency, participation of SMEs and consortium generation**



Q/A session

Francisco Miguel Sánchez Margallo, Scientific Director of the
CCMIJU Foundation

Juan A. Sánchez Margallo, Project manager

José Luis Añover Ortiz, Legal department of the CCMIJU
Foundation

Santiago Donat, Ayming



THANK YOU

More information at:
tremirs@ccmijesususon.com

