Webinar | IMI2 – Call 13
Assessment of the uniqueness of diabetic cardiomyopathy relative to other forms of heart failure using unbiased pheno-mapping approaches

14 December 2017 • 15:00 CET

Agenda

- How to use GoToWebinar – Catherine Brett, IMI
- Introduction – Iwona Jablonska, IMI
- The Call topic – Philip Janiak & Matthias Gossel, Sanofi
- Involvement of SMEs, patients and regulators – Iwona Jablonska, IMI
- Questions & answers

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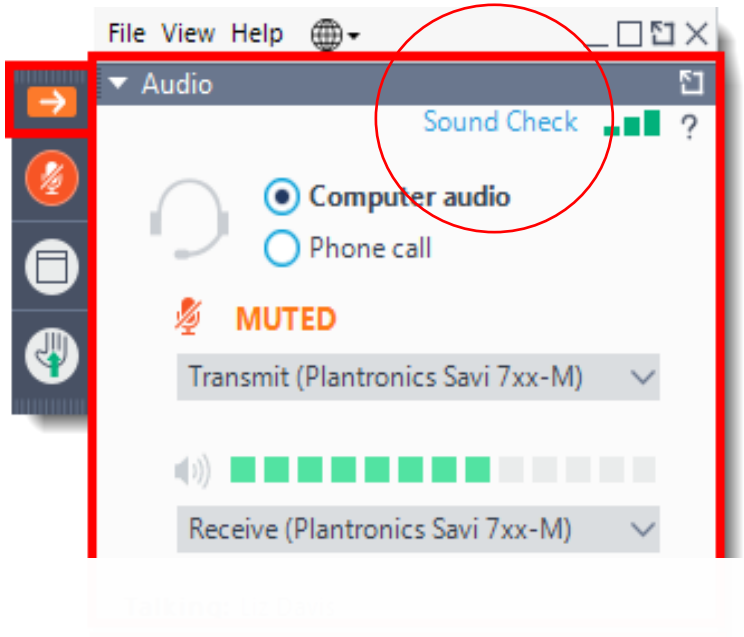

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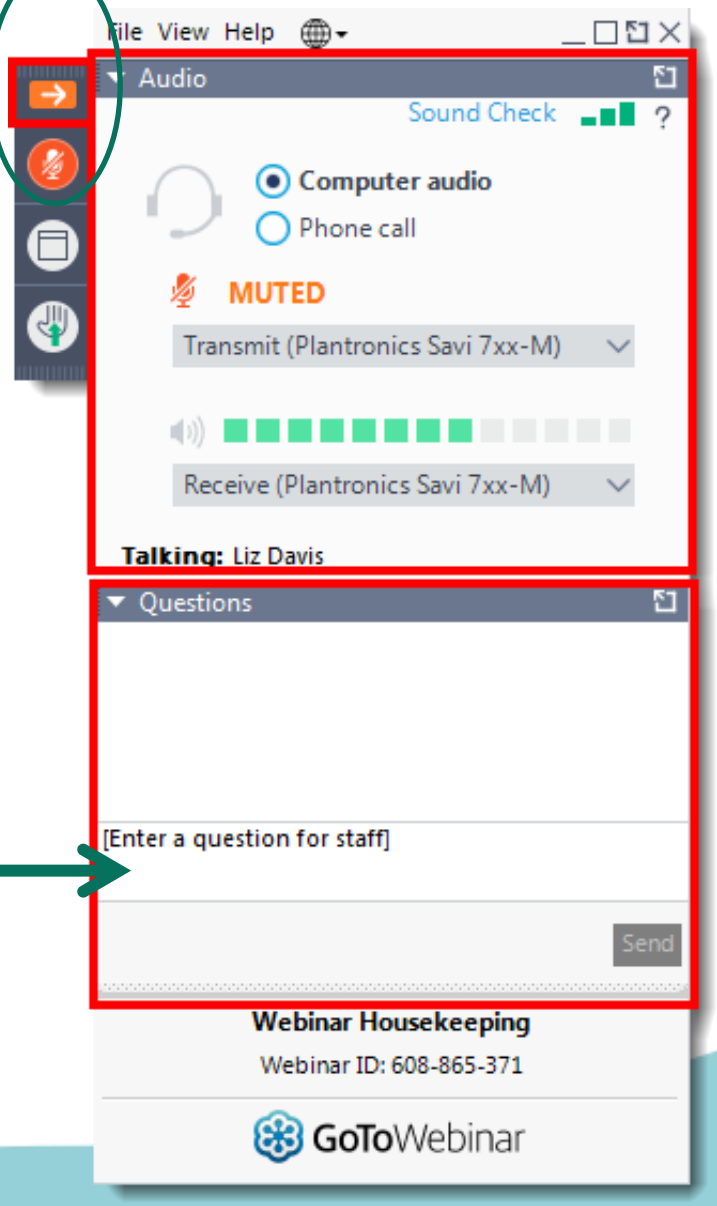

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Before we start…

- This webinar is being recorded and will be published on the IMI website and / or IMI YouTube channel
- Presentation slides will be published on the webinar web page
- A participant list will be circulated
- IMI2 – Call 13 has been launched and all Call documents & details of how to apply can be found on the IMI website

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Webinar | IMI2 - Call 13

Topic 1: Assessment of the uniqueness of diabetic cardiomyopathy relative to other forms of heart failure using unbiased pheno-mapping approaches

Iwona Jablonska

Today's webinar

Will cover all aspects of the Call topic

- Introduction to IMI programme
- Proposed project
  - Objectives, need for public-private collaborative research
  - Key deliverables
  - Structure of the project
  - Expected contribution of the applicants
  - Contribution of industry consortium

Will not cover rules and procedures

- **Webinars on IMI's rules and procedures** and **opportunities for SMEs** took place on Thursday 7 December – recordings are available online
- Both will be repeated in January 2018 – sign up via imi.europa.eu

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IMI – Europe's partnership for health

IMI mission

IMI facilitates open collaboration in research to advance the development of, and accelerate patient access to, personalised medicines for the health and wellbeing of all, especially in areas of unmet medical need.

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IMI – Ecosystem for innovative collaborations

- Allow engagement in a cross-sector, multi-disciplinary consortium at the forefront of cutting-edge research
- Provide the necessary scale by combining funding, expertise, knowledge, skills and resources
- Build a collaboration based on trust, creativity and innovative and critical thinking
- Learn from each other - new knowledge, skills, ways of working
- Take part in transformative research that will make a difference in drug development and ultimately patients' lives

IMI is a **neutral platform** where **all involved** in drug development can engage in **open collaboration** on **shared challenges**.

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IMI 2 budget (2014 – 2024)

EU funding goes to:

Universities

SMEs

Mid-sized companies

Patient groups

etc…

€1.638 bn

€1.425 bn

Other €213 m

IMI 2 total budget €3.276 billion

EFPIA companies

receive no funding

contribute to projects ‘in kind’

Associated Partners e.g. charities, non-EFPIA companies

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How a topic is generated

Industrial partners align themselves around a real challenge for industry and agree to work together **and commit resources**

New ideas from public sector, universities, SMEs etc. are needed to address the challenge

Scale is a key to success and is provided through IMI funding

Outcomes should be transformative for the industry as well as having a clear “public” value

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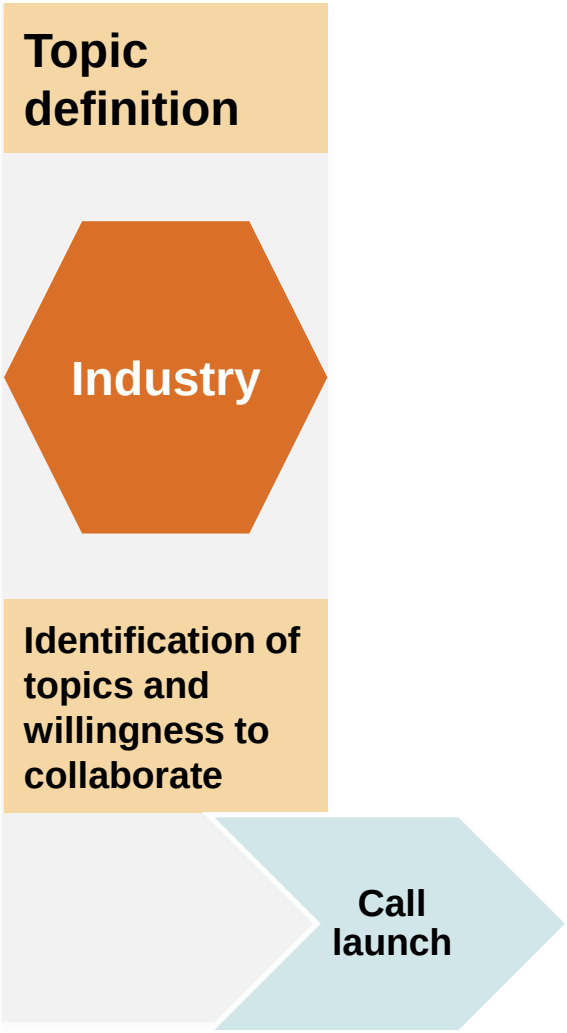
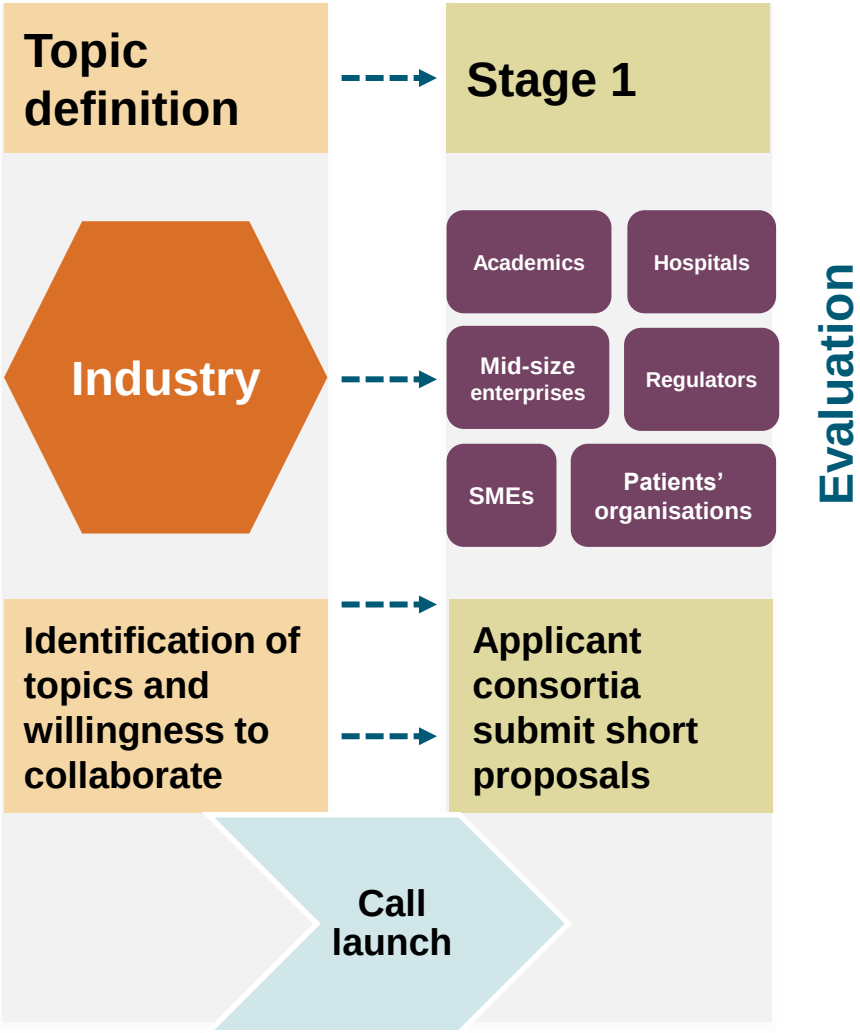
Typical IMI project life cycle



Typical IMI project life cycle



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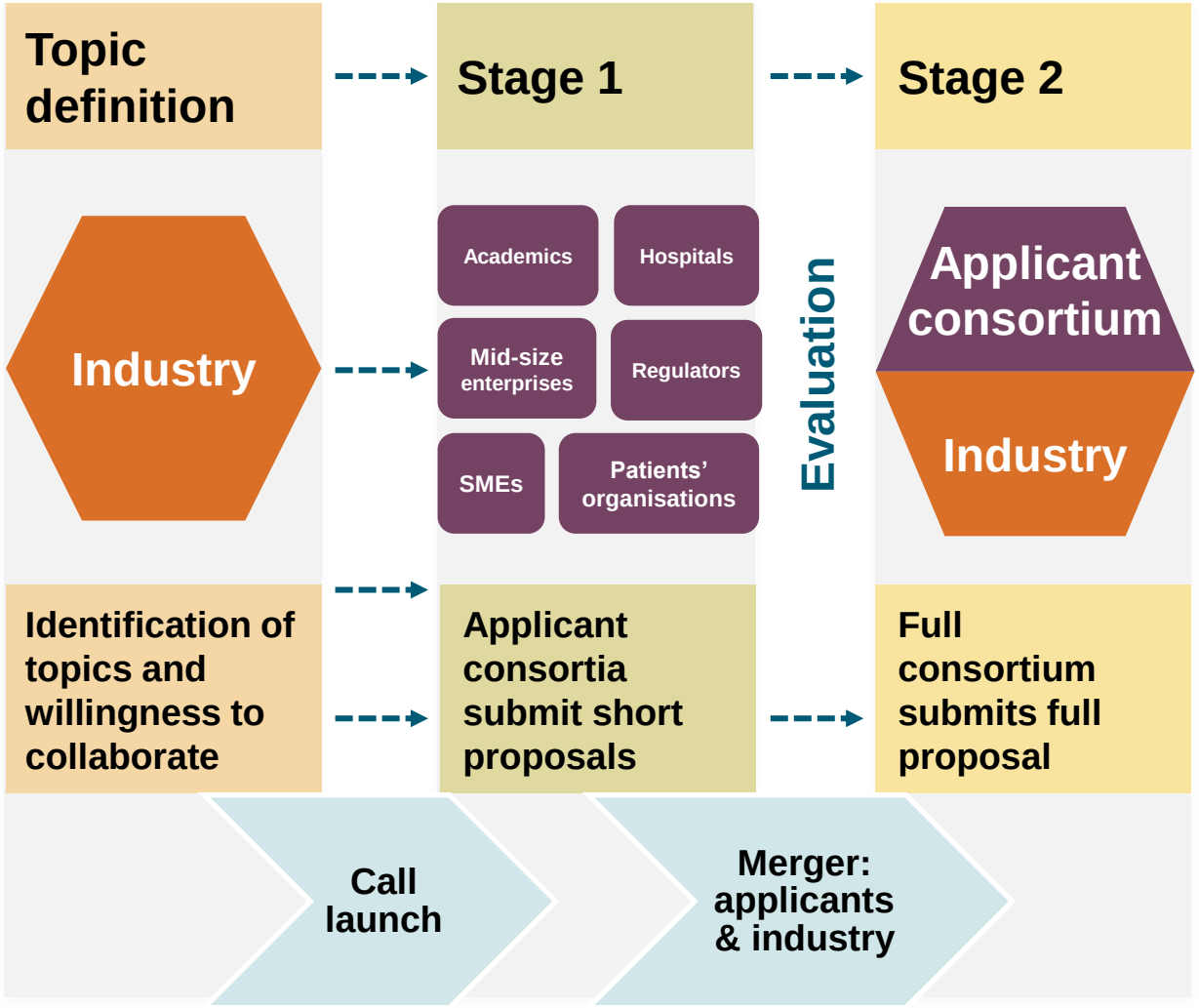
Typical IMI project life cycle



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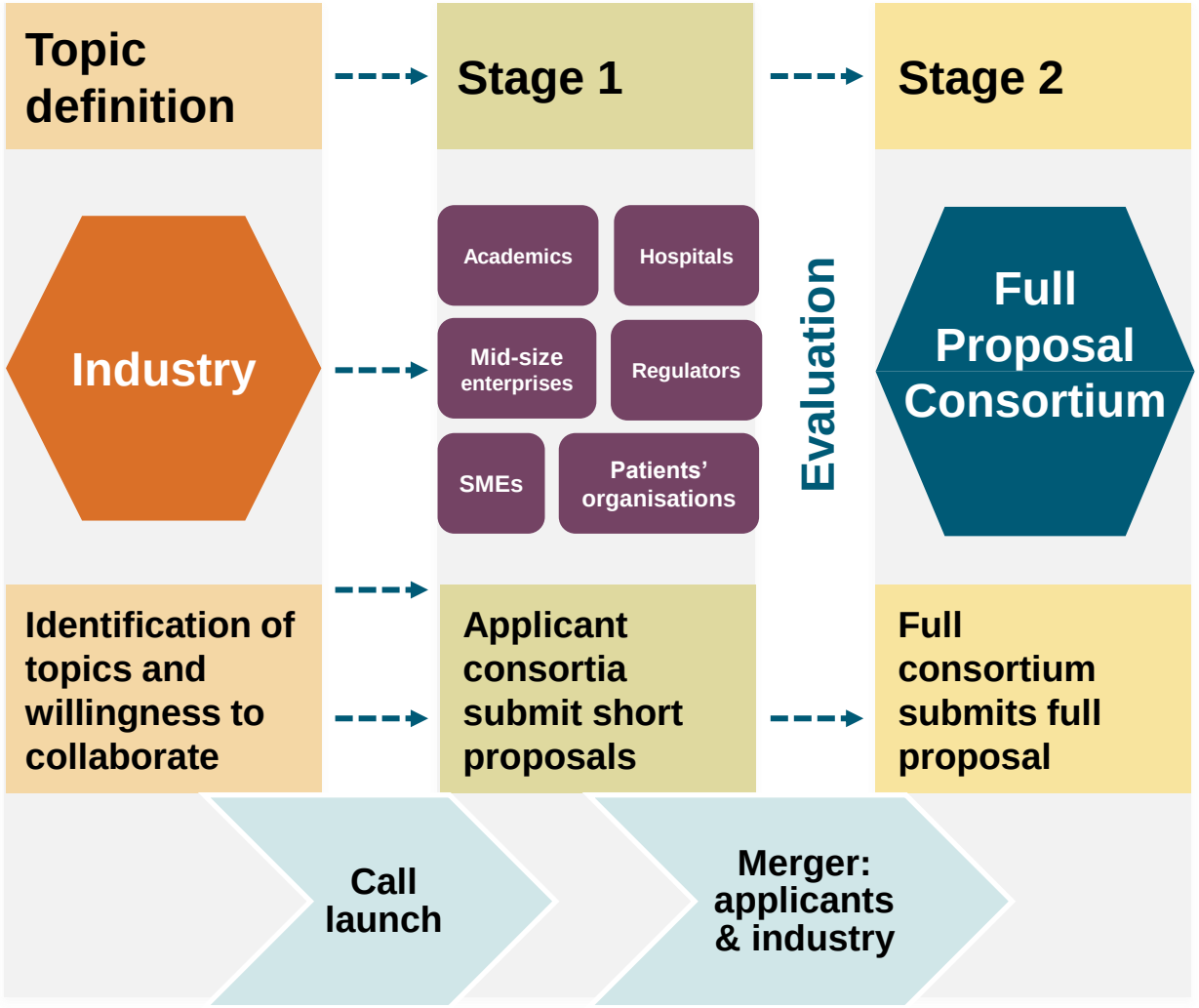
Typical IMI project life cycle



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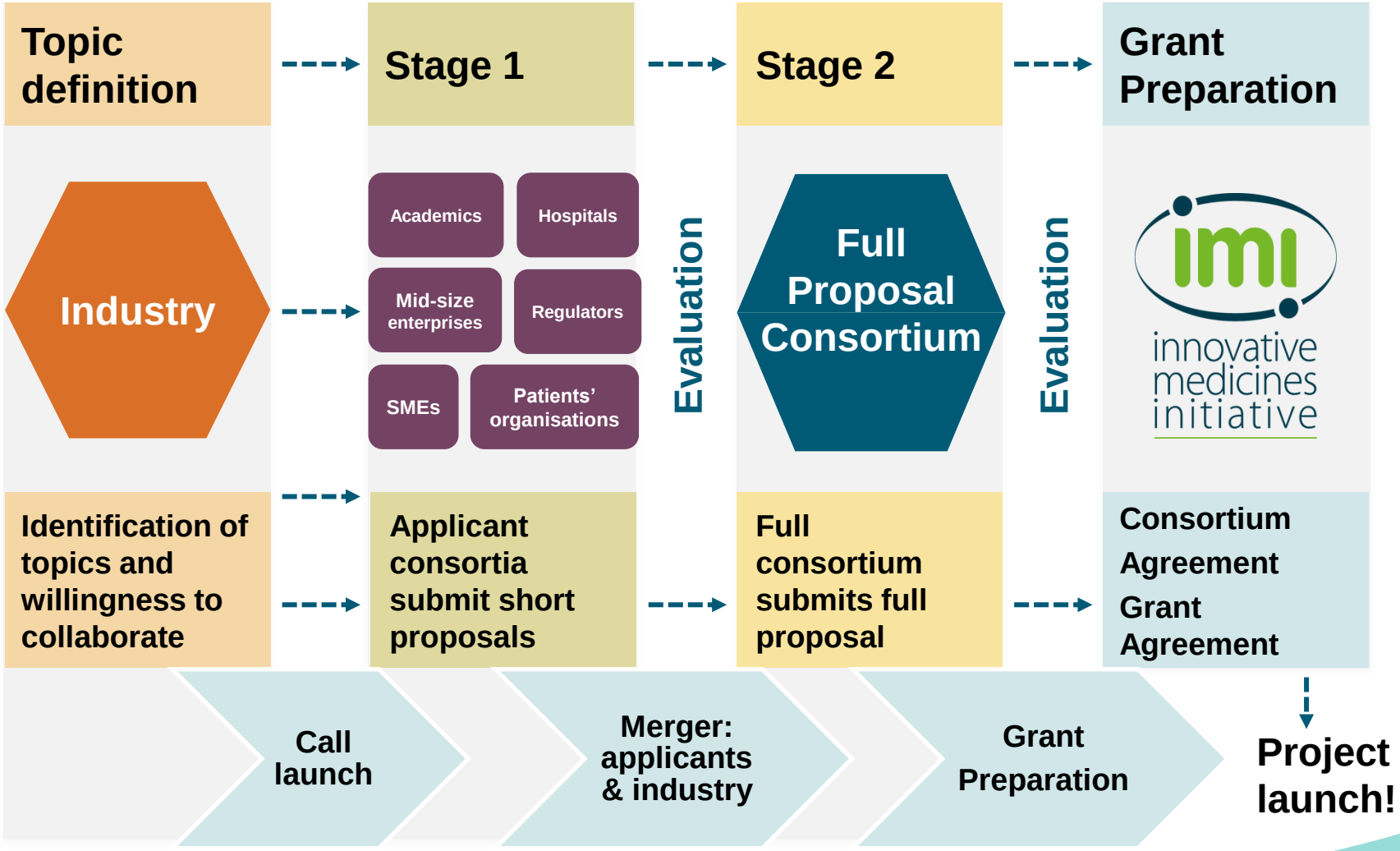
Typical IMI project life cycle



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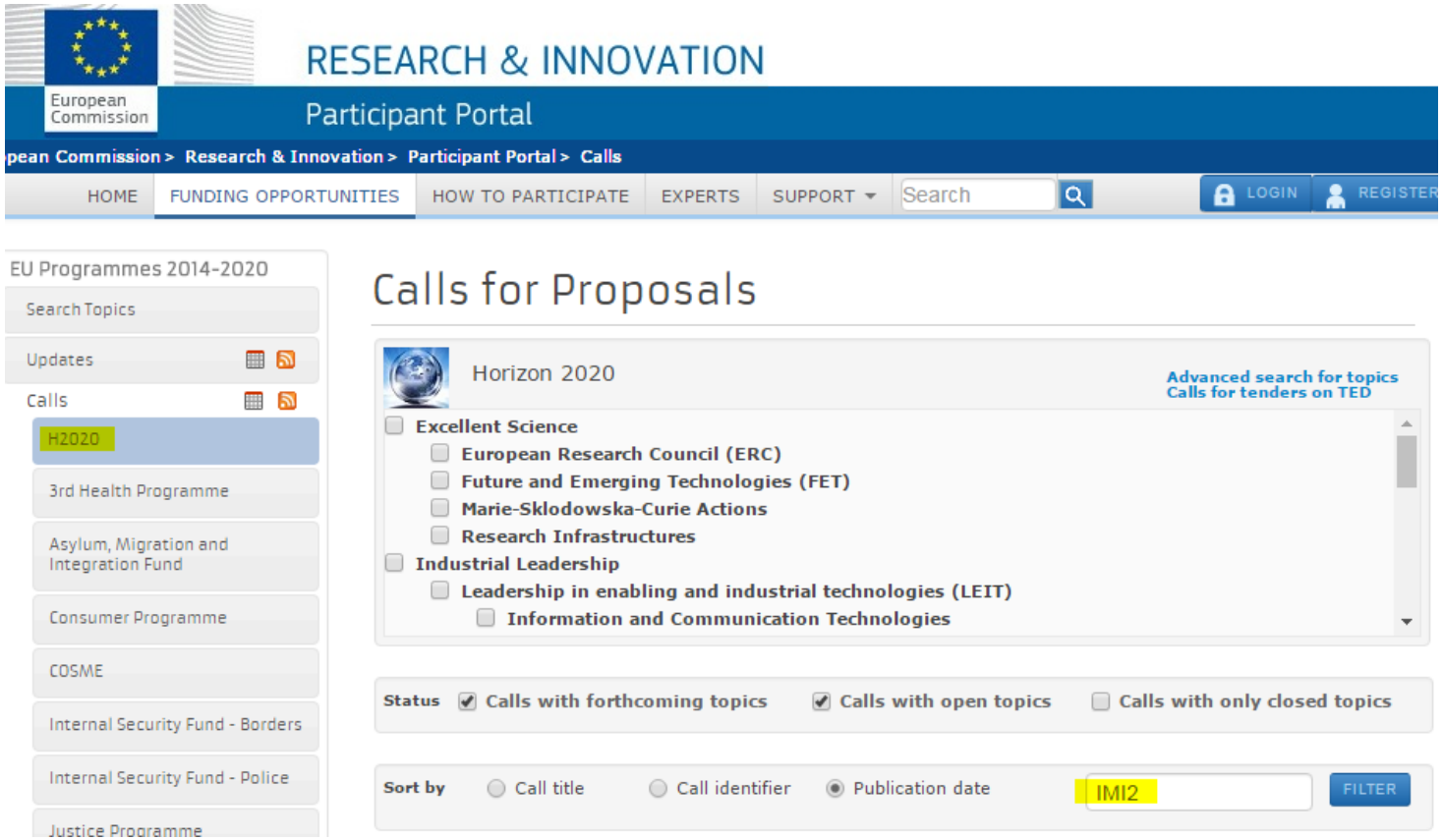
Submitting a proposal

- https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/index.html



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Proposal Template

- Available on IMI website & H2020 submission tool
- For first stage proposals, the page limit is **30 pages**.

Title of Proposal

List of participants

Table of Contents

1.	EXCELLENCE
1.1	Objectives
1.2	Relation to the call topic text.
1.3	Concept and approach
1.4	Ambition
2.	IMPACT
1	Expected impacts
3.	IMPLEMENTATION
3.1	Outline of project plan — Work packages, and major deliverables
3.2	Management structure and procedures
3.3	Consortium as a whole
3.4	Table 3.1a: List of work packages
4.	PARTICIPANTS
4.1.	Participants (applicants)

Evaluation Criteria (1/2)

- **Excellence**
  - Clarity and pertinence of the proposal to meet all key objectives of the topic;
  - Credibility of the proposed approach;
  - Soundness of the concept, including trans-disciplinary considerations, where relevant;
  - Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art;
  - Mobilisation of the necessary expertise to achieve the objectives of the topic, ensure engagement of all relevant key stakeholders.
- **Impact**
  - The expected impacts of the proposed approach as mentioned in the Call for proposals;
  - Added value from the public private partnership approach on R&D, regulatory, clinical and healthcare practice as relevant;
  - Strengthening the competitiveness and industrial leadership and/or addressing specific societal challenges;
  - Improving European citizens' health and wellbeing and contribute to the IMI2 objectives.

Evaluation Criteria (2/2)

- **Quality and efficiency of the implementation**
  - Coherence and effectiveness of the outline of the project work plan, including appropriateness of the roles and allocation of tasks, resources, timelines and approximate budget;
  - Complementarity of the participants within the consortium (where relevant) and strategy to create a successful partnership with the industry consortium as mentioned in the topic description in the Call for proposal;
  - Appropriateness of the proposed management structures and procedures, including manageability of the consortium.

Tips for writing a successful proposal

- Read **all the call-relevant material:**
  www.imi.europa.eu
- Begin forming your consortium **early**
  Partner search tools & networking events
- Provide **reviewers** with all the information requested to allow them to evaluate your proposal
- **Finalise and submit your proposal early**
- Contact the **IMI Office** (**NOT** industry topic writers):
  infodesk@imi.europa.eu

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Common mistakes

- Admissibility/Eligibility criteria not met**:**
  - submission **deadline** missed
  - minimum of **3 legal entities** from **3 member states & H2020 associated countries** not met
- The proposal does **not address all the objectives** of the topic
- A proposal is **scientifically excellent** but will have **limited impact**
- **Complementarity** with Industry consortium not well described.

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Find project partners

- Network with **your contacts**
- **Network** with fellow webinar participants
- Use **Partner Search Tools:**
  - EU participant portal: https://ec.europa.eu/research/participants/portal/desktop/en/organisations/partner_search.html
  - German NCP partner search tool: www.imi-partnering.eu
- Get in touch with your **local IMI contact point**: www.imi.europa.eu/about-imi/governance/states-representatives-group
- Talk to your **Health National Contact Point** (NCP)
- Network on **social media** (e.g. IMI LinkedIn group)

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Participation of SMEs, patient groups, regulators

We encourage the participation of a wide range of health research and drug development stakeholders in our projects.

- SMEs and mid-sized companies
  – *check the list of interested SMEs on the Call 13 web page*
- Patient organisations
- Regulatory bodies
- Companies / organisations from related fields (e.g. diagnostics, animal health, IT, imaging etc…)

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Assessment of the Uniqueness of Diabetic Cardiomyopathy Relative to Other Forms of Heart Failure Using Unbiased Pheno-Mapping Approaches

Philip Janiak

14.12.2017 • IMI webinar

Introduction to Diabetic Cardiomyopathy

- Diabetes contributes to the development of Heart Failure (HF)
  - indirectly by promoting the progression of coronary artery disease and
  - **directly through the development of cardiomyopathy**
- Diabetic patients have a 2.5-fold greater risk for HF as compared to those without diabetes.
- Epidemiological studies have reported a 4-fold higher prevalence of diabetes mellitus in HF patients (20%) compared to age-matched populations without HF (5%) which rises up to 40% in hospitalized HF patients.
- Over the last decades it became clear that there is a relationship between diabetes and HF although not all patients with diabetes develop cardiomyopathy or evolve toward HF.

Medical Need

- Currently **Diabetic Cardiomyopathy** is diagnosed by exclusion of known risk factors for heart failure. The underlying specific patho-mechanisms are however unknown

- **No tailored therapy of Diabetic Cardiomyopathy is available**

Objectives

- Assess whether Diabetic Cardiomyopathy is unique, identify causal mechanism of cardiomyopathy in diabetic patients, and evaluate the impact of cardiomyopathy on mortality in diabetics

- Improve the diagnosis of diabetic cardiomyopathy based on newly defined **inclusion criteria** accepted by clinical investigators and regulators

- **Identification of a novel phenotypic signature to:**
  - predict cardiac function decline in T2DM patients
  - allow for early preventative life style changes
  - facilitate tailored therapies to slow disease progression
  - develop disease modeling for translatable preclinical models

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Key Deliverables of the Full Project

- Definition of clear **inclusion criteria/parameters** to be be used for initial patient enrollment
- Successful **patient enrollment** (4 groups of 1000 patients/group)
  - Non-ischemic Diabetic Cardiomyopathy
  - Non-ischemic HFpEF
  - Idiopathic Hypertrophic Cardiomyopathy (HCM)
  - Type 2 Diabetes Mellitus with no HF or cardiomyopathy

- **Deep phenotyping**: cardiac, vascular, pulmonary, renal and skeletal muscle function
- Apply **unsupervised machine learning** algorithms to deep phenotyping datasets;
- **Identification of biochemical pathways** involved in Diabetic Cardiomyopathy;
- **Disease modelling** for better understanding disease biology to enable development of **predictive preclinical models**
- Communicate value proposition of a **new classification to target audiences** (i.e. Regulators, Healthcare Practitioners and Payers).

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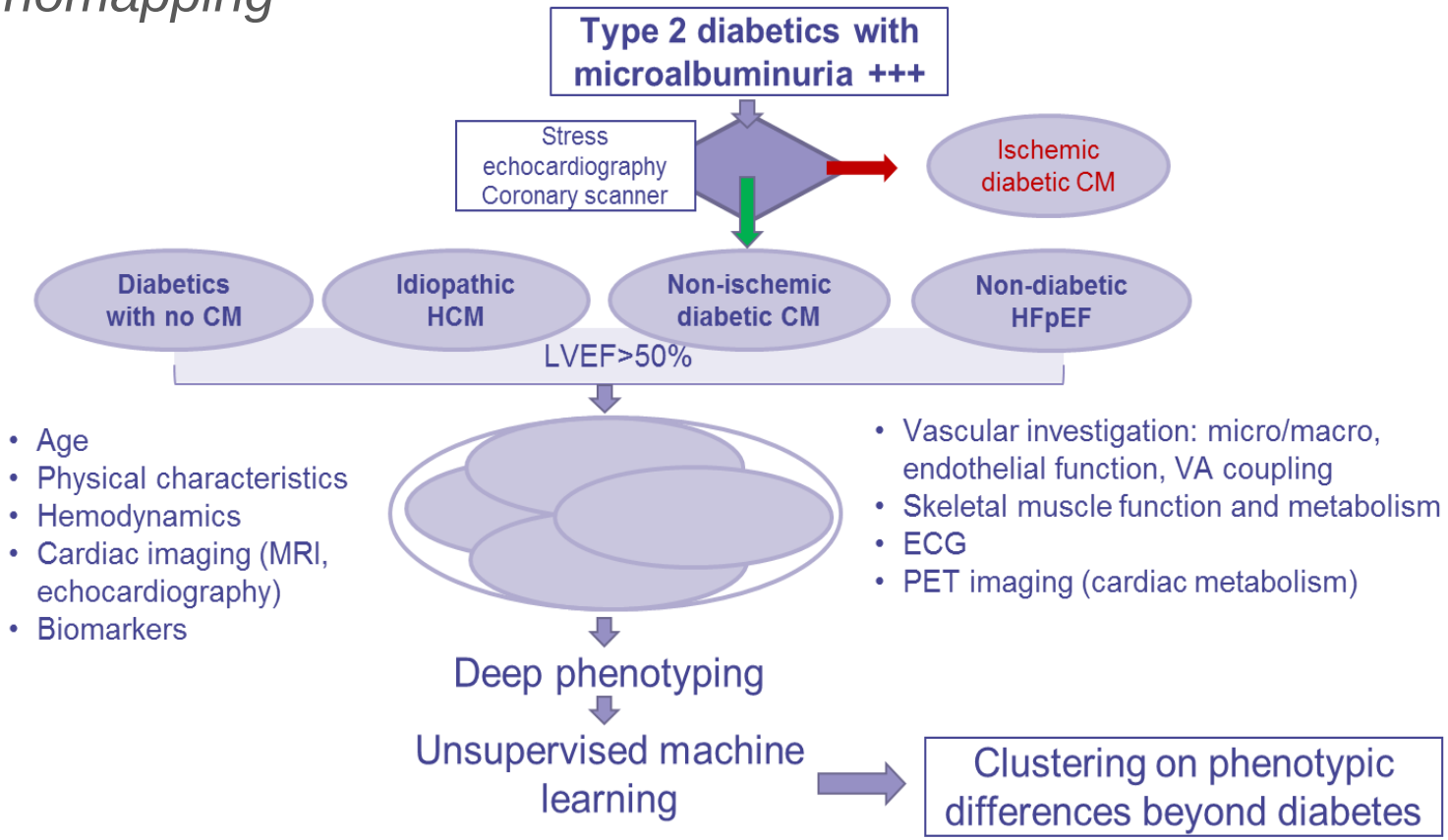
Diabetic Cardiomyopathy

Phenomapping



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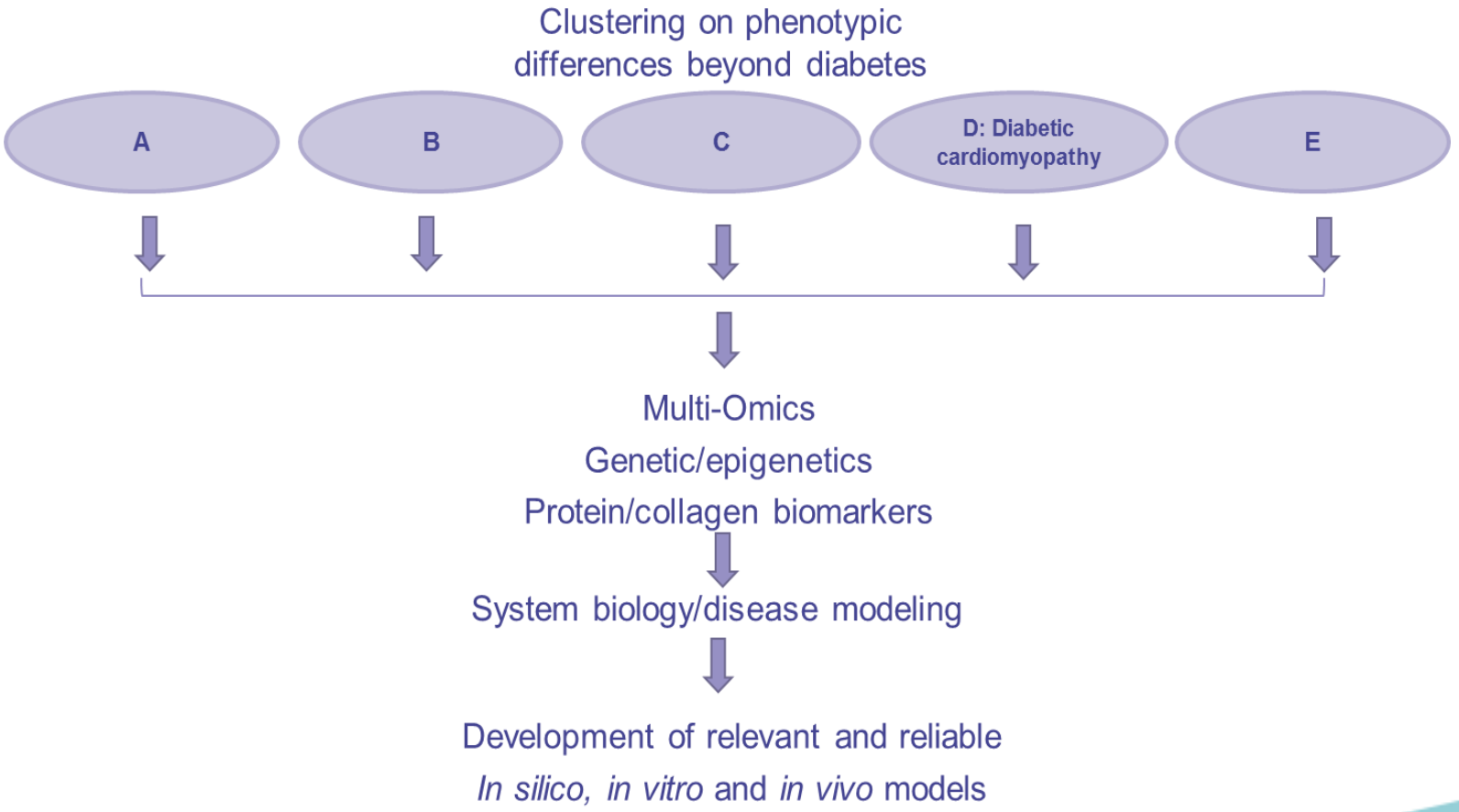
Diabetic Cardiomyopathy

Redefinition and specificity



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Expected Contributions from the Applicants 1

- Research scientists, clinicians, clinical centers and imaging specialists who are recognized experts in heart failure and diabetes
  - **Access to clinical cohorts of heart failure patients with and without diabetes from registries or prospective clinical trials to ensure the enrolment of 1000 patients per group**
  - Availability of key non-invasive technologies for deep phenotyping
  - Development of a structured database that allows the joint analysis of complex datasets;
  - Strong experience in unsupervised machine learning;
  - Systems biology for analysis by vertical integration of phenotype, clinical, multi-omics and genetics/epigenetics datasets
  - In-depth expertise in preclinical models relevant to Diabetic Cardiomyopathy
  - Experience in communication with global regulators, patient organizations, general practitioners and payers

Expected Contributions from the Applicants 2

SMEs

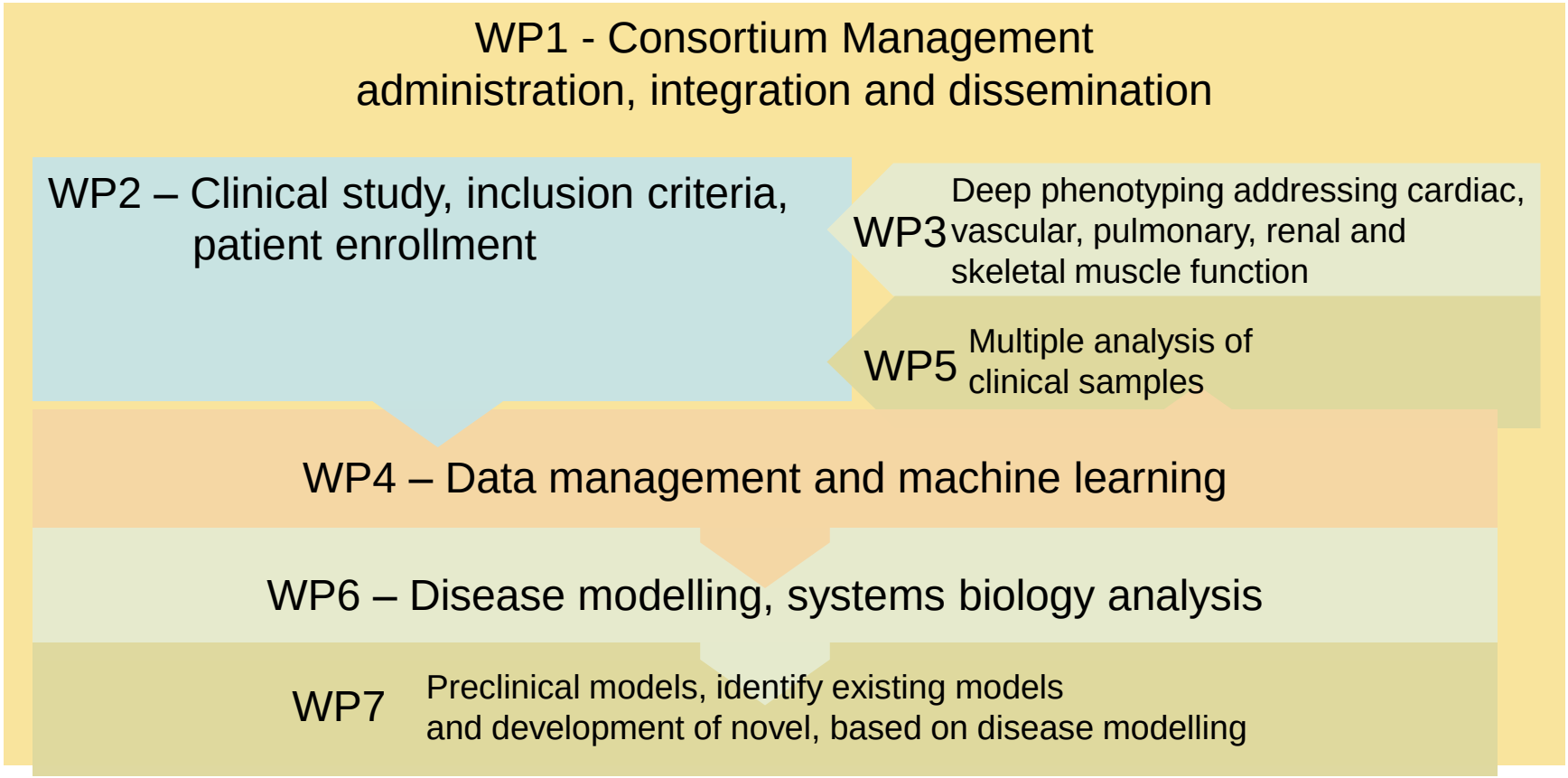
- The participation of SME in particular with the following expertise would be highly appreciated:
  - Machine Learning
  - Data Management
  - Image analysis
  - Imaging technologies
  - Metabolomics analysis
  - Lipidomics analysis

Expected (In Kind) Contributions of Industry Consortium

- Methodologies for the merging, harmonization and meta-analyses of existing clinical, imaging and biomarker data
- Expertise in systems biology and disease modelling
  - biomarker evaluation, bioinformatics and statistical expertise
  - technology for measuring specific biomarkers when required
- Expertise in diabetes and heart failure clinical trials and regulatory
- In-kind contributions entailing
  - clinical trial design
  - efforts of ‘back-translation’ into preclinical models
  - validating in vitro and in vivo model(s) and biomarkers

Suggested Architecture of the Project

(WP: Work Package)



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Project Parameters

- **Budget:**
  - 12.7 Mio Euro overall
  - 6.7 Mio IMI contribution for academic participants
  - 6.0 Mio in-kind contribution by EFPIA partners

- **EFPIA Partners:**
  - Sanofi
  - Bayer
  - Eli Lilly

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Expected Impact

- Accepted definition in R&D, clinics and regulatory authorities and payers of the phenotype of Diabetic Cardiomyopathy should improve basis for research in academia and industry and ultimately enable specific diagnosis and in turn improved therapy and prognosis
  - Identification of validated biomarkers
  - Improved understanding of the molecular taxonomy
  - Availability of novel predictive preclinical models to enable drug development and treatment beyond blood glucose control

What's in it for You?

- In general: A collaborative project with a multitude of supplementing resources, high medical need, expert demanding and very advantageous economic conditions
- Newly defined, recognized and accepted indication by regulators, healthcare professionals and payors
- Academia: Gain of scientific insight and technology know-how with high publication potential due to the pre-competitive nature
- SME: Building and enhancing professional network, development and widening of experience of own expertise and/or technology
- Patient's organisations: to support elucidation of the differentiating determinants of Diabetic Cardiomyopathy's patho-mechanisms to enable in turn improved diagnoses, therapy and prognoses

Need for Public-Private Collaboration

- The magnitude of the issue is such that it can only be addressed by a major Public-Private-Partnership involving a variety of stakeholders who have a complementary experience and expertise
  - Access to extant heart failure cohorts with or without diabetes
  - Partners primarily involved in understanding the clinical parameters and molecular mechanisms of disease
  - Regulators
  - Sufficient level of funding
- This topic therefore cannot be successfully administered by an individual research group or company but will require a broad consortium to be successful

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Pre-Competitive Nature

- The project aims at identifying a specific diagnostic signature (biomarker and imaging) to identify susceptible or affected patients with Diabetic Cardiomyopathy
  - This would allow in turn to investigate the unique patho-mechanism of diabetic cardiomyopathy over heart failure of different causes
- Such an effort only is meaningful if it could gain consensus acceptance of clustering criteria from all stakeholders of the respective medical community including research and clinical investigators and regulators

Involvement of SMEs, patient groups, regulators

Iwona Jablonska

SME participation

IMI encourages the participation of SMEs in applicant consortia as they can offer a complementary perspective to other organisations.

Small- and medium-sized enterprises (SMEs) are expected to contribute specific methodologies or technical platforms to foster efficiency and innovation within the project, especially in the following areas:

- Machine-learning
- Data management
- Image analysis
- Imaging technologies
- Metabolomics & Lipidomics analyses
- Project management in the context of IMI/H2020 projects.

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Interactions with regulators

- Consider having a **plan for interaction** with relevant **milestones**, **resources** allocated
- You may need to go through a **formal regulatory process** to ensure **regulatory acceptance of project results** (e.g. qualification procedure for biomarkers)
- Get familiar with **services offered for dialogue** (e.g. at EMA through qualification advice, Innovation Task Force, briefing meetings)
- If regulators are not project participants, consider including them in an **advisory board**
- Consider also a plan for dialogue with **HTA bodies / payers** if relevant

To maximise impact of science generated by projects

Engage in dialogue with regulatory authorities

More info: 'Raising awareness of regulatory requirements: A guidance tool for researchers'

www.imi.europa.eu/sites/default/files/uploads/documents/apply-for-funding/call-documents/imi2/RegulatoryRequirementsGuide.pdf

Regulators and patients

Need for public-private partnership

- The taxonomy and new classification **will need to find acceptance by global regulators and other public bodies, including payers**. It will be crucial for the success of the project to interact and integrate these stakeholders as early as possible. This can be achieved by integrating them as participants into the project or, if appropriate, within advisory bodies.

Applicant consortium's expertise

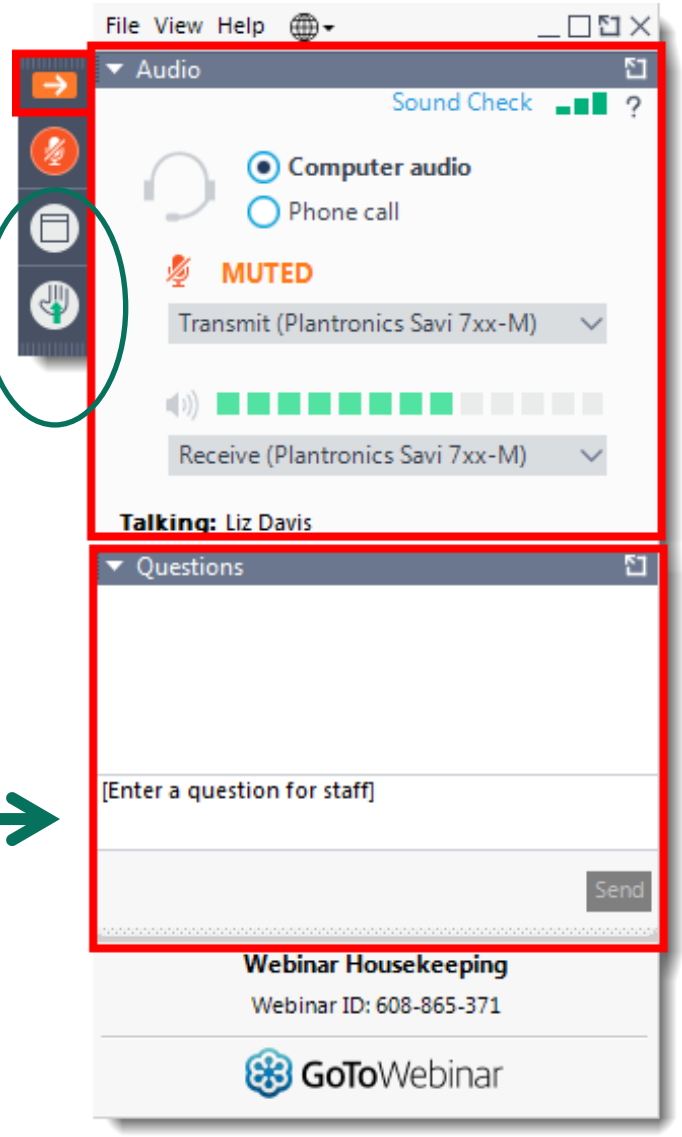
- Experience in communication with **global regulators, patients, practitioners and payers**, who may be members of a to be established advisory board.
- The consortium is expected to have a strategy on the translation of the relevant project outputs into **regulatory practices, regulatory, clinical and healthcare practice**. **A plan for interactions with regulatory agencies/health technology assessment bodies** with relevant milestones and resources allocated should be proposed to ensure e.g. qualification advice on the proposed methods for novel methodologies for drug development.

Questions

Questions?

Raise your hand if you want to ask a question orally

Send a question in writing



After the webinar, send any questions to the **IMI Programme Office**

infodesk@imi.europa.eu

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