

Webinar | IMI2 – Call 14

Targeted immune intervention for the management of non-response and relapse

5 April 2018

Agenda

- How to use GoToWebinar – Catherine Brett, IMI
- Introduction – Isabella Tamagnini, IMI
- The Call topic – Peter Hecht, Sanofi
- Involvement of patient groups, SMEs, regulators – Isabella Tamagnini, IMI
- Questions & answers

How to use GoToWebinar - audio

To listen via your computer, select **Computer audio**

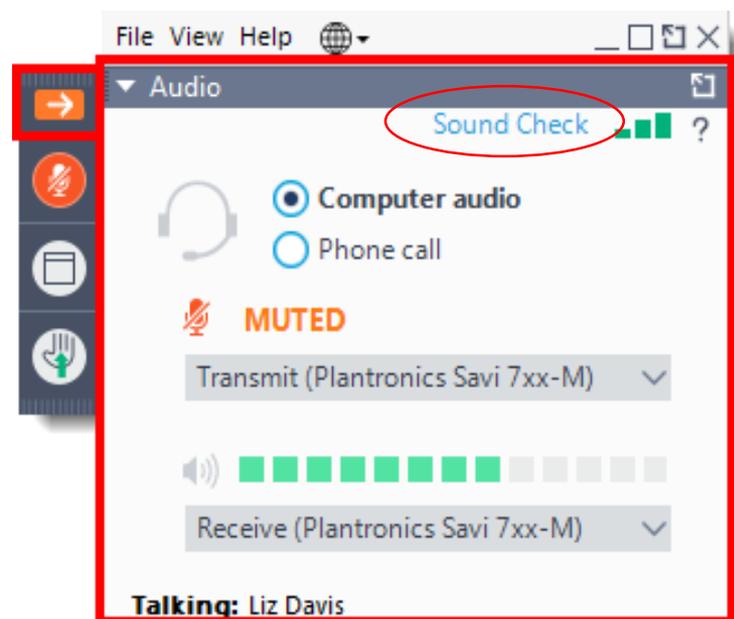
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- Check your **speakers are switched on and not muted**
- Do a **Sound Check** to make sure GoToWebinar is picking up the right speakers
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How to use GoToWebinar

Expand / minimise control panel →

Microphone status →

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Raise / lower your hand
e.g. if you want to ask a
question orally

Send a question in writing →

The screenshot shows the GoToWebinar interface with several key elements highlighted by a red border and green arrows:

- Expand / minimise control panel:** A red circle highlights the right-pointing arrow icon at the top of the control panel.
- Microphone status:** A red circle highlights the microphone icon, which is currently muted.
- Full screen:** A red circle highlights the full-screen icon (a square with a smaller square inside).
- Raise / lower your hand:** A red circle highlights the hand icon, which is currently raised.
- Send a question in writing:** A red circle highlights the text input field containing the placeholder "[Enter a question for staff]" and the "Send" button.

The interface also displays the following information:

- File View Help (menu)
- Audio (title bar)
- Sound Check (status)
- Computer audio (selected) / Phone call (unselected)
- MUTED (status)
- Transmit (Plantronics Savi 7xx-M) (dropdown)
- Receive (Plantronics Savi 7xx-M) (dropdown)
- Talking: Liz Davis (status)
- Questions (title bar)
- Webinar Housekeeping (title bar)
- Webinar ID: 608-865-371 (text)
- GoToWebinar (logo)

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 and published on the website
- IMI2 – Call 14 has been launched and all Call documents & details of how to apply can be found on the IMI website

Webinar | IMI2 - Call 14

Targeted immune intervention for the management of non-response and relapse

Isabella Tamagnini

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

- A webinar on rules and procedures will take place on Wednesday 11 April, 10:30-12:00

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.

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**.

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

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

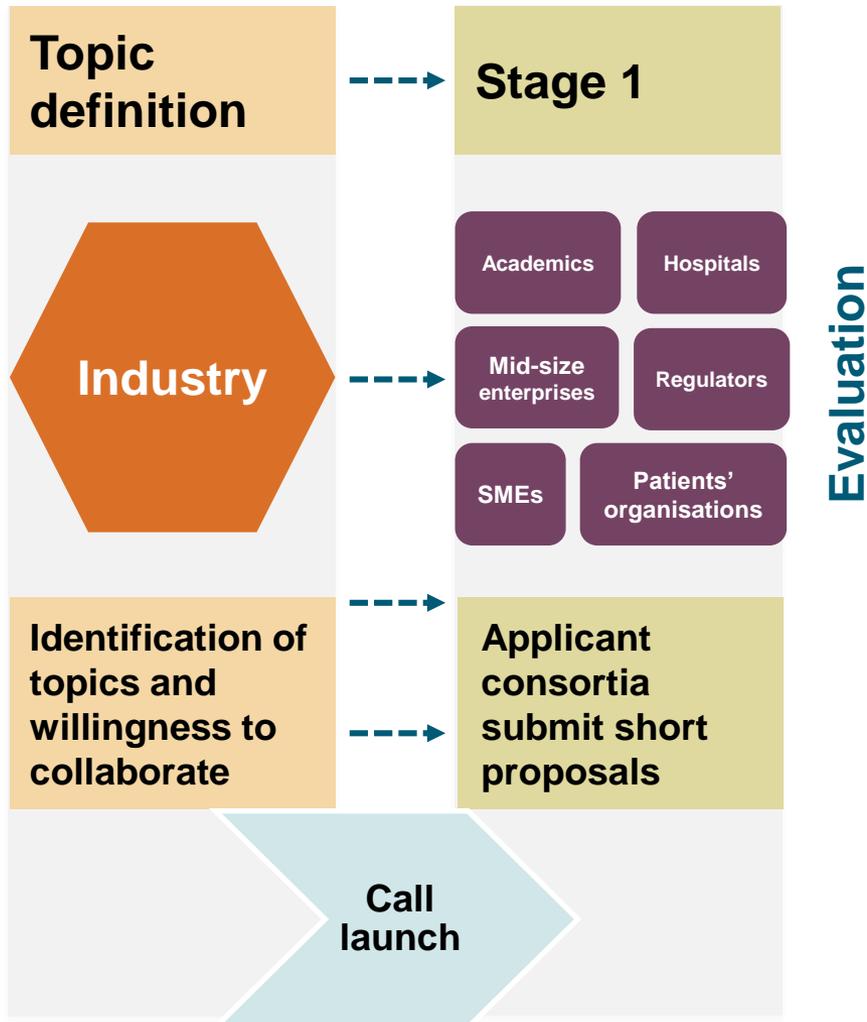
Scale is a key to success and is provided through IMI funding

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

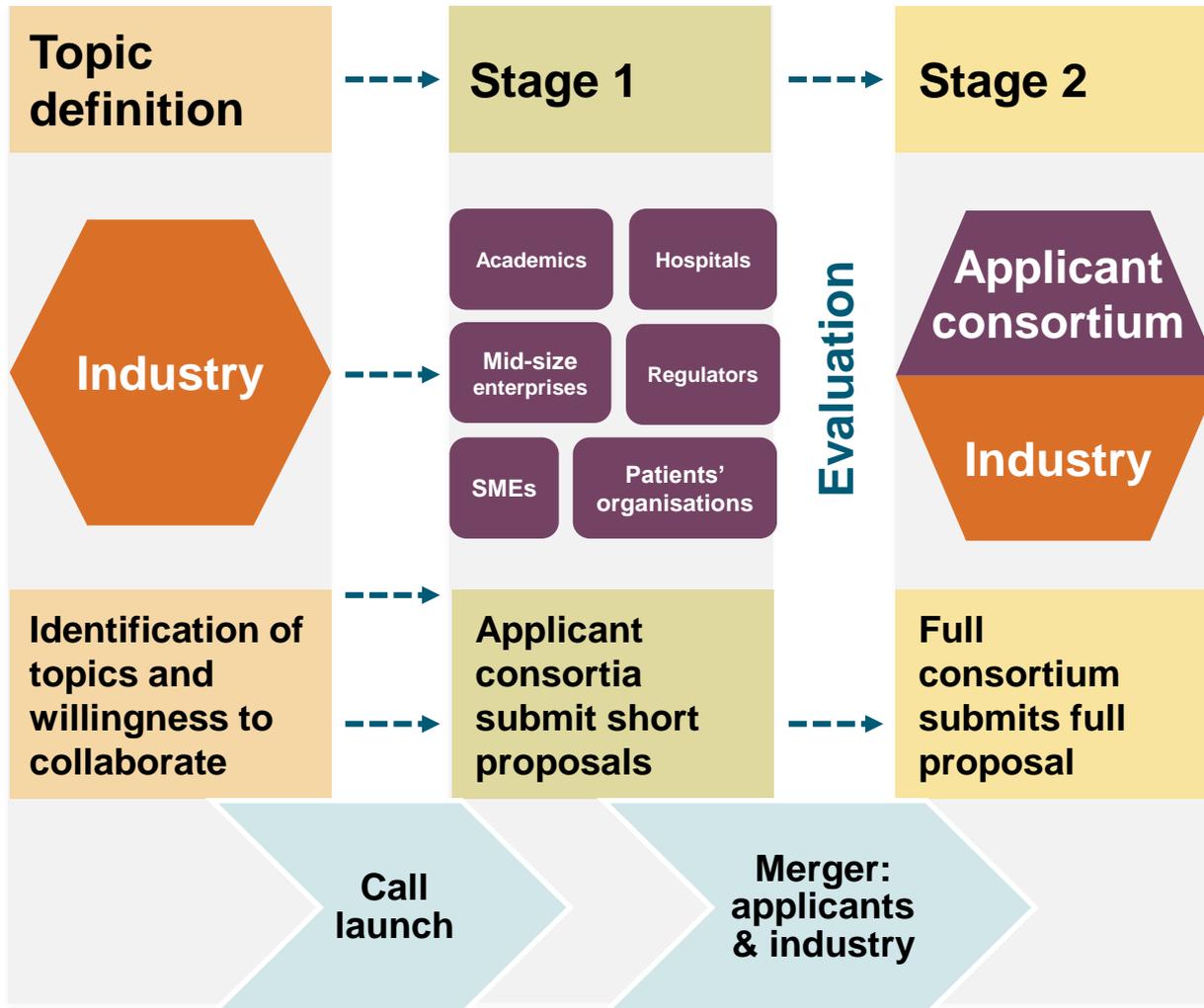
Typical IMI project life cycle



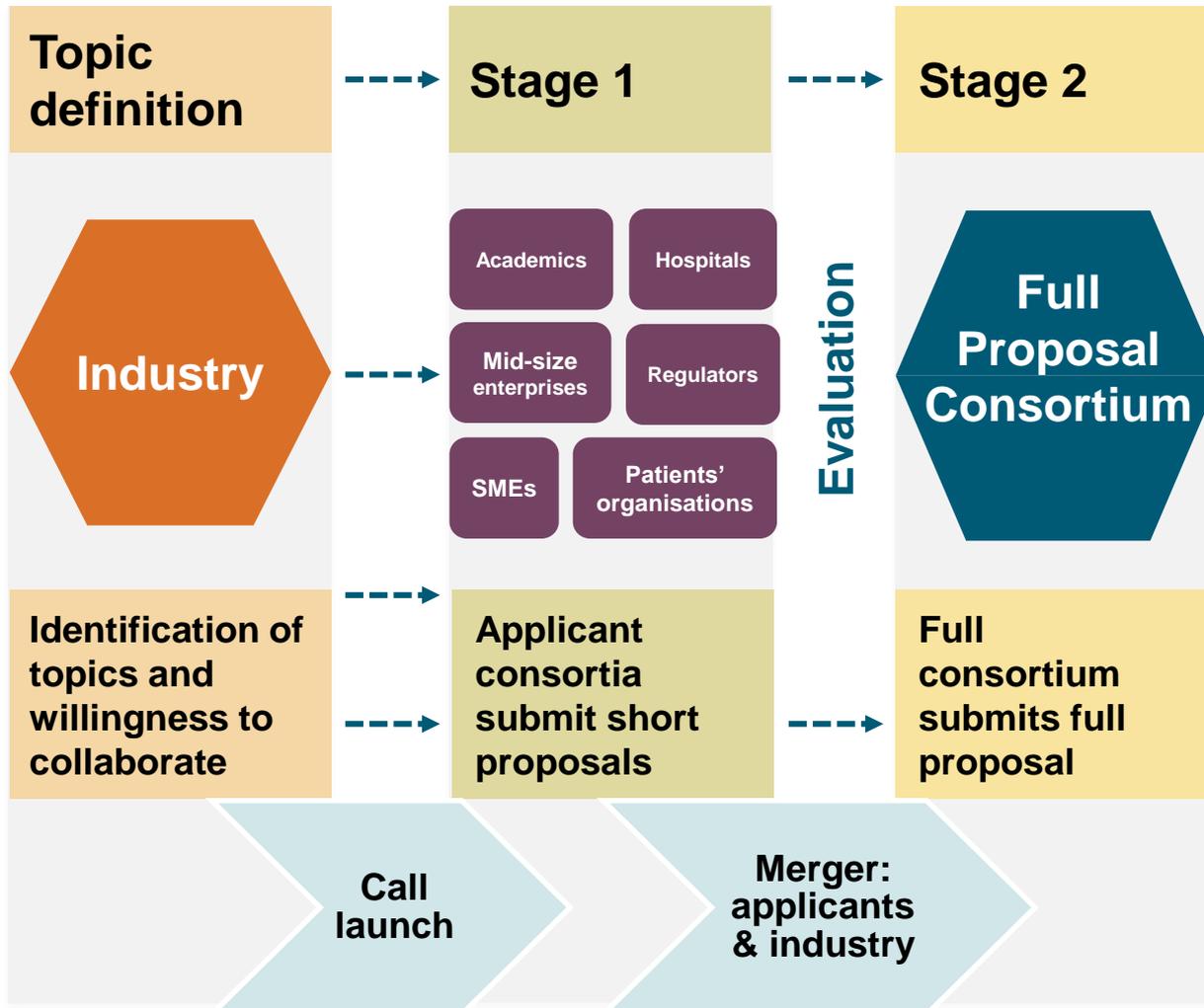
Typical IMI project life cycle



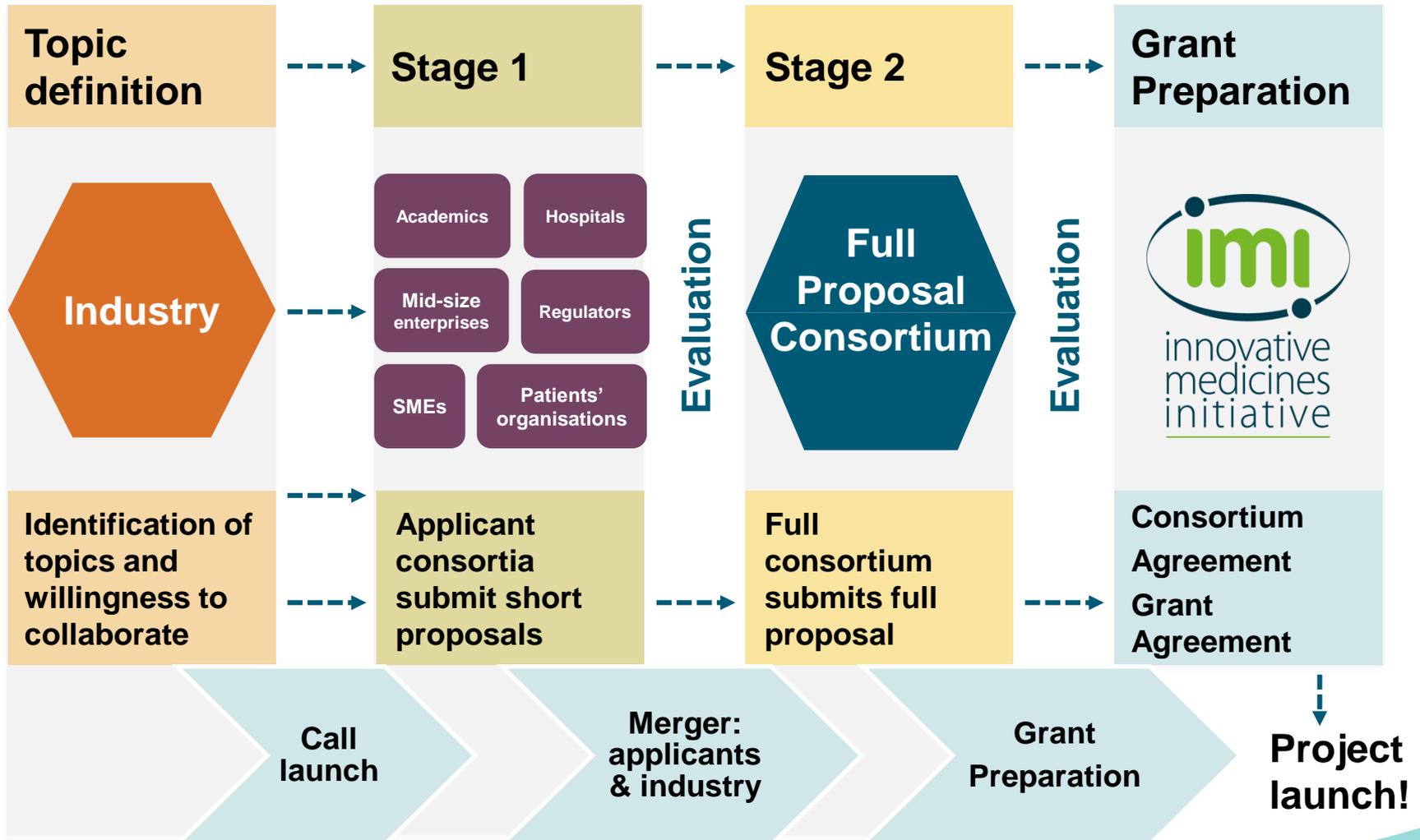
Typical IMI project life cycle



Typical IMI project life cycle



Typical IMI project life cycle



Submitting a proposal

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

The screenshot displays the 'Participant Portal' for 'RESEARCH & INNOVATION' by the European Commission. The main navigation bar includes 'HOME', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'EXPERTS', and 'SUPPORT'. A search bar and 'LOGIN'/'REGISTER' buttons are also present. The left sidebar lists 'EU Programmes 2014-2020' with categories like 'Search Topics', 'Updates', and 'Calls', where 'H2020' is selected. The main content area is titled 'Calls for Proposals' and features a 'Horizon 2020' section with a list of topics: 'Excellent Science' (including ERC, FET, Marie-Sklodowska-Curie Actions, and Research Infrastructures) and 'Industrial Leadership' (including LEIT and ICT). Below this, there are filters for 'Status' (Calls with forthcoming topics, Calls with open topics, Calls with only closed topics) and 'Sort by' (Call title, Call identifier, Publication date). A search filter 'IMI2' is entered in the 'Publication date' field.

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

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.

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)

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 14 web page*
- Patient organisations
- Regulatory bodies
- Companies / organisations from related fields (e.g. diagnostics, animal health, IT, imaging etc...)

Targeted immune intervention for the management of non-response and relapse

Terry Means, Peter Hecht
3 April 2018

Challenges and need for public-private collaboration

- A large number of patients suffering from immune-mediated diseases fail to respond well or at all to current standard-of-care treatments or quickly relapse
 - Lack of accurate prediction & mechanistic understanding
- Detailed analysis of clinical samples before and during treatment would enable breakthrough discoveries on the mechanisms, the clinical management of non-response,
- Translating these insights from treatment non-response and disease exacerbation into new treatment paradigms at the individual patient level.

Objectives and precompetitive nature of the project: = to better control of immune-mediated disease

To identify new approaches to:

- characterise human immune-mediated diseases;
- profile and analyse immune cells obtained from non-blood tissues;
- discover individual disease and cross-disease biomarkers predictive of treatment response, non-response, relapse and flare-up;
- perform early phase clinical trials (e.g. enriched study populations for certain molecular pathways; adaptive and basket trial designs etc.) and identify potential novel patient-centric treatment approaches.

The focus will be on patients from well-characterised immune-mediated diseases systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), multiple sclerosis (MS), ulcerative colitis (UC), Crohn's disease (CD), asthma and chronic obstructive pulmonary disease (COPD),

Expected Impact

Translational research platform that will improve patient management and personalised treatment by identification/validation of predictive biomarkers for non-response, rapid progression and remission.

- patients and society, due to fewer side effects and a reduction in the treatment of patients who are unlikely to respond;
- pharmaceutical companies, due to decreased development costs as a function of being able to demonstrate efficacy and safety in smaller, more targeted patient populations that are likely to show greater or earlier response rates.

Project Architecture

Per Subtopic Disease Cluster (DC):

Work Packages for Patient Data and Samples - Retrospective cohorts and Prospective collection

DC1

RA
SLE
MS

DC2

UC
CD

DC3

COPD
Asthma

Subtopic Disease Profiling and Informatics:

Work Packages for immunological and molecular profiling using state of the art –omics technologies, system biology and bioinformatics data analysis, centralized scalable data hosting, highly standardized data generation with SOPs and centralized lab functions

Public consortia apply to each subtopic separately and the best applicant for each subtopic is merged with the industry consortium into one consortium to prepare one full proposal.

Overall project duration: 84 months

Subtopic 1 (Profiling & informatics):

- Financial contribution IMI2JU: EUR 16 128 000
 - EFPIA – in kind: EUR 16 128 000
- TOTAL = EUR 32 256 000

Subtopic 2 (DC1 – SLE, RA, and MS):

- Financial contribution IMI2JU: EUR 12 096 000
 - EFPIA – in kind: EUR 12 096 000
- TOTAL = EUR 24 192 000

Subtopic 3 (DC2 – UC and CD):

- Financial contribution IMI2JU: EUR 8 064 000
 - EFPIA – in kind: EUR 8 064 000
- TOTAL = EUR 16 128 000

Subtopic 4 (DC3 – Asthma and COPD):

- Financial contribution IMI2JU: EUR 4 032 000
 - EFPIA – in kind: EUR 4 032 000
- TOTAL = EUR 8 064 000

EFPIA companies:

Sanofi (overall lead; disease profiling and informatics subtopic lead; DC1 subtopic lead)
Roche (overall co-lead)
Takeda (DC2 subtopic lead)
AstraZeneca (DC3 subtopic lead)
GlaxoSmithKline
Janssen
Novartis
Pfizer

Suggested architecture of the full proposal

- The coordinator will be agreed upon by the full consortium created by the merger of the winning subtopic consortia at the start of the preparation of the full proposal and it will be nominated from the winning disease profiling and informatics subtopic 1.
- Governance of the overall project will be assured by the project coordinator and the scientific project lead.

Subtopic: Disease profiling and informatics - expected key deliverables

- Molecular profiling of non-responders that will lead to a better understanding of the pathways regulating the response to treatment in seven different diseases (RA, SLE, MS, UC, CD, COPD and asthma), and reveal drug targets for therapeutic intervention.
- Discovery of biomarkers predictive of clinical responses (e.g. non-response, depth of remission, duration of response, rebound effects, frequency and severity of flares).
- Establishment of technology platforms, including transcriptomics (e.g. single cell-, BCR-, TCR-, RNA-Seq), genomics (e.g. SNP, ImmunoChip, exome sequencing), microbiomics, metabolomics, epigenetics (e.g. DNA methylation, ATAC-Seq, ChIP-Seq), immunophenotyping (flow cytometry/CyTOF), proteomics and exosome profiling.
- Utilise a core set (scRNA-Seq, genetics, microbiomics (stool)) of state-of-the-art and emerging molecular and immune technologies and cutting-edge systems biology approaches to profile and analyse non-blood affected disease tissue samples to identify biomarkers predictive of treatment non-response, relapse and flare-up.
- Single cell RNA-Seq of non-blood tissue samples to determine the role of different cell types and identify distinct cell sub-populations that contribute to clinical response and disease progression and correlate with peripheral markers/signatures.
- Analysis of -omics datasets leading to the generation of novel methods and models to predictively identify and stratify responder, non-responder and relapse-prone patients aligned with specific therapies.
- Generation and hosting of an integrated large-scale data storage and computing platform to collect, store, analyse and integrate data to allow data mining for new targets and pathways.
- Establishment of a sustainable repository of well-annotated bio-samples to allow for the identification, tracking, storage and retrieval for subsequent profiling and analysis.

Subtopic: Disease profiling and informatics - expertise and resources required from Applicant consortium

- To establish of a bio-sample repository to allow for the identification, tracking, and storage for subsequent profiling and analysis;
- For standardised isolation, storage, processing and –omics analysis;
- Establish a centralised lab functions for state-of-the-art and emerging technologies for –omics analysis (e.g. single cell transcriptome analysis, spatial transcriptomics, genomics, epigenetics, microbiome, metabolomics, flow cytometry/CyTOF, proteomics, and exosome profiling) in clinical sample types (e.g. tissue biopsies, sputum, stool, blood, plasma, urine) across the selected diseases;
- For the generation and hosting of an integrated, large-scale data platform and informatics pipeline to collect, store and analyse these data;
- For data integration and/or harmonisation techniques and cutting-edge systems biology approaches to model multiple –omics datasets from multiple diseases to identify biomarkers that predict treatment non-responders or relapse-prone patient populations;
- For informatics analysis and modelling to support patient stratification, future clinical trial design and precision medicine approaches;
- For collaborative functional validation of novel pathways, drug targets and biomarker candidates; proven expertise in efficiently managing and maintaining timelines for large, multi-institutional scientific projects, and proven expertise in project management including resources for project administration, management and communication;
- In regulatory science and inclusion of regulatory experts.

Subtopic: Disease profiling and informatics - expected (in kind) contributions of industry consortium

Profiling:

- if relevant, provide molecular profiling of bio-samples from DC1, DC2 and DC3 patients using RNA-Seq, single cell RNA-Seq, genetics (all required), and flow cytometry/CyTOF (desired);
- profiling of DC1, DC2 and DC3 patient stool samples using microbiomics and metabolome (required for DC2 and desired for DC1 and DC3);
- epigenetic, metabolomic, microbiomic (lung, skin), proteomic and exosome profiling of non-stool bio-samples obtained from DC1, DC2 and DC3 patients (desired);
- transfer of profiling datasets to a centralized scalable data hosting and computing platform generated and maintained by the disease profiling and informatics subtopic;
- provide informatics support to the disease profiling and informatics subtopic.

Subtopic Disease Cluster 1 – 3: expected key deliverables

For further details see Call topic text

- Analysis of retrospective and prospective clinical and biomarker cohorts with access to patient data and bio-samples.
- Patient bio-resources that should be ideally matched with high dimensional profiling of patients' signs and symptoms including patient reported outcomes and the use of digital tools to capture patient outcomes and environment.
- Establishment of an interface with the Disease profiling and informatics subtopic 1 to efficiently receive, send, track and store data and bio-samples, and establish necessary processes for high dimensional data analysis.
- Functional and clinical validation of biomarkers using human-based disease models (e.g. organoids / organ on a chip).
- Development of best practice for emerging biomarker validation and clinical application in immune-mediated diseases with early engagement of the European Medicines Agency (EMA) / Food and Drug Administration (FDA) (e.g. scientific advice, see <http://www.imi.europa.eu/sites/default/files/uploads/documents/apply-for-funding/call-documents/imi2/RegulatoryRequirementsGuide.pdf>)

Subtopic Disease Cluster 1 – 3: expertise and resources required from Applicant consortium

For further details see Call topic text

- access to pre-existing bio-samples (non-blood tissues required and matching blood samples desired) and patient data from retrospective biomarker and clinical trials suitable (e.g. tissue frozen, not fixed) for profiling using state-of-the-art and/or emerging technologies;
- ability to design and conduct interventional prospective clinically relevant and actionable biomarker trials to obtain high quality clinical data and well-annotated bio-samples;
- expertise in the development of human-based disease models based on novel insights from the –omics studies (e.g. organoids) - note mouse models are not applicable;
- the inclusion of patients and patient organisations in the consortia applying to the disease cluster subtopics (DC1, DC2, DC3) is actively encouraged;
- ability to anticipate the early integration of health economic evaluation and health technology assessment (HTA) where applicable;
- ability to contribute insights on patient reported outcomes and quality of life (QoL) elements for the definition of clinical response.

For specific requirements for DC1 – DC3 as well as the specific expected (in kind) contributions of industry consortium please consult the Call topic text

What's in it for you?

- Academic researchers & clinicians – addressing a key unmet medical need – endorsement by EMA / FDA (IMI Regulatory Summit; Dec 2017)
 - Appropriate project architecture to ensure disease specific focus as well as across disease aspects coupled with cutting edge technology.
- SMEs – especially beneficial for e.g. the generation and hosting of an integrated large scale data platform, and the specialty profiling of bio-samples, biorepository and project administration / communication
- the inclusion of patients and patient organizations in the consortia applying to the disease cluster subtopics (DC1, DC2, DC3) is actively encouraged;
- HTA health technology assessment (HTA) - to anticipate the early integration of health economic evaluation

Involvement of SMEs, patient groups, regulators

Isabella Tamagnini

SME participation

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

Under this topic, the contribution of SMEs would be considered especially beneficial in areas that include:

- establishment of a bio-sample repository
- generation and hosting of an integrated large scale data platform
- specialty profiling of biosamples, using state-of-the-art and/or emerging technologies
- project administration, management and communication
- etc.

Patient participation

IMI encourages consortia applying to the disease cluster subtopics (DC1, DC2, DC3) to consult patient organisations or patient advocacy groups, e.g. regarding:

- patient consent forms
- relevant communication about the project and its potential value
- dissemination of the project results
- etc.

Interactions with regulators

- **Have a plan for interaction** with relevant **milestones** and **resources** allocated, as needed
- Consider the **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)
- Consider involving regulators as project participants or in the **advisory board**
- Have 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:

- [Webinar & presentations](#) 'How to engage with regulators EMA / FDA'
- Raising awareness of regulatory requirements: [A guidance tool for researchers](#)



Questions

Questions?

Raise your hand
if you want to ask a
question orally



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Send a question in writing



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

applicants@imi.europa.eu