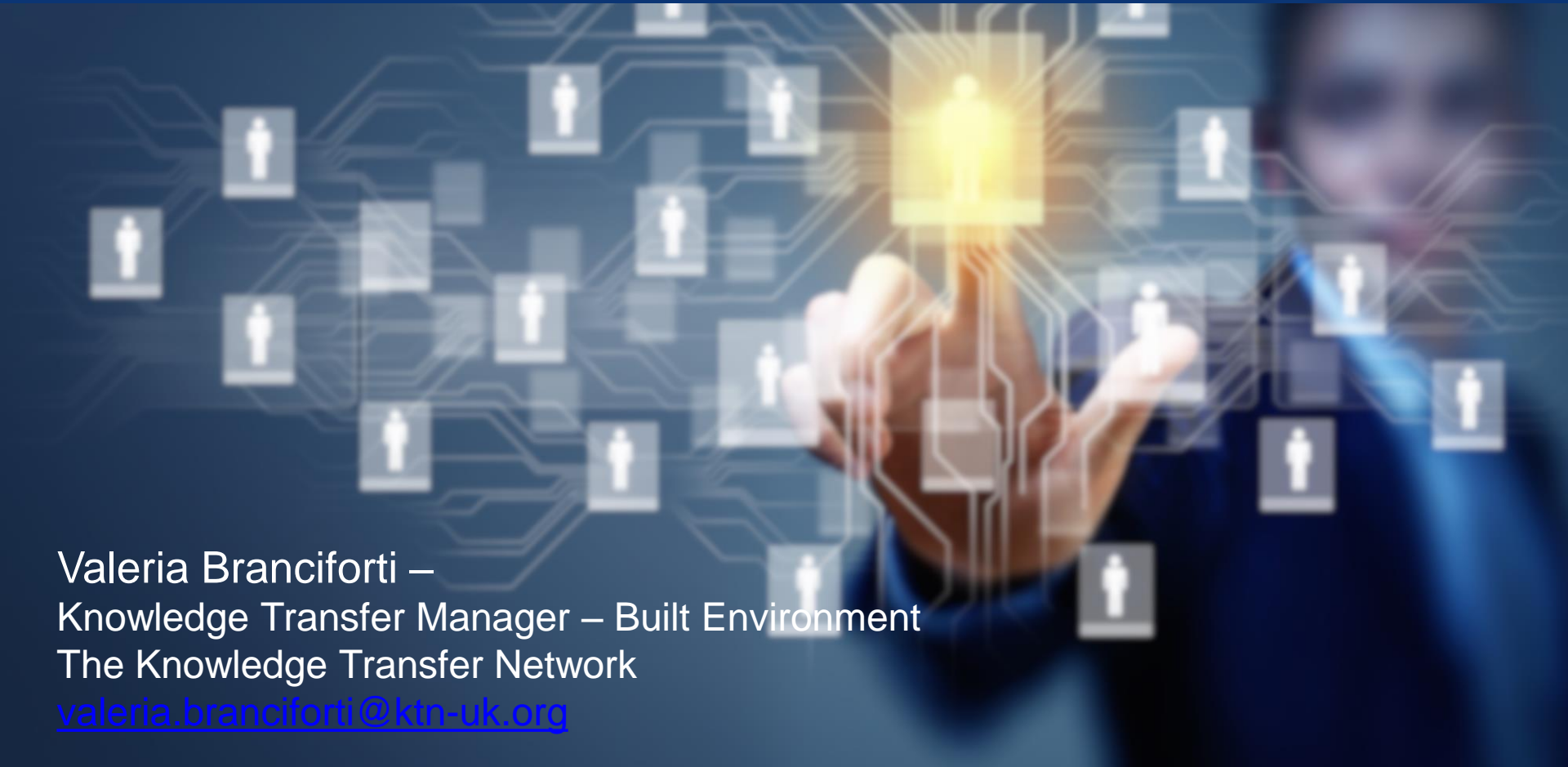


Introduction to Simulation Best Practice Project and the State of the Art Work Package



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We work with
Innovate UK

SimBest ✓

 **KTN**
the Knowledge Transfer Network

SIMBEST PROJECT OVERVIEW (1)

- Lack of confidence in design and manufacturing increases the use of expensive and time-consuming prototyping in the design process.
- Innovate UK is currently funding a project with KTN, NAFEMS and Alstom which looks to identify best practice and emerging trends in simulation with an aim to provide resources to:
 - Enable new and struggling users of simulation and modelling tools to learn from experienced users, both to understand the benefits and how to use them to achieve benefits.
 - Identify the state-of-the-art and future developments in simulation and modeling so that experienced users can progress their use of these tools, and achieve even greater productivity in their design and manufacturing.



SIMBEST PROJECT OVERVIEW (2)

- Areas being addressed by the SimBest project are:
 - High performance computing.
 - Multi-scale modelling.
 - Multi-physics modelling.
 - Optimisation.
 - Materials modeling.
 - Uncertainty quantification
- This project will involve direct discussions coupled with community workshops to further evolve consensus on best practice, state of the art and current gaps across the most important simulation technologies with high potential advantage in multiple sectors if
- adopted more widely.

The logo for ALSTOM, featuring the word "ALSTOM" in a bold, blue, sans-serif font. The letter "O" is stylized as a red circle with a white dot in the center, resembling an eye or a lens.

SIMBEST WORKPACKAGES

WP1 – PROJECT
MANAGEMENT

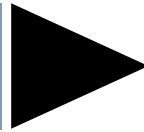
WP2 – COMMUNITY
IDENTIFICATION

WP3 – INDUSTRIAL BEST
PRACTICE

WP4 – STATE OF THE ART

WP5 – GAP ANALYSIS

WP6 - DISSEMINATION



The establishment of a simulation use landscape to identify topic areas for best practice and state of the art comparisons later in the project will be led by NAFEMS. A desk study will be performed to list simulation and modeling approaches relevant to HVM and with inputs from KTN a list of leading researchers and industry players will be assembled to begin community building.

7 key manufacturing industries will be targeted:

- Aeronautics
- Automotive
- Energy
- Process (including Chemistry & Food)
- Built Environment
- Electronics
- Health (including medical and life-style)

SIMBEST WORKPACKAGES

WP1 – PROJECT
MANAGEMENT

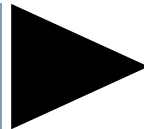
WP2 – COMMUNITY
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WP4 – STATE OF THE ART

WP5 – GAP ANALYSIS

WP6 - DISSEMINATION

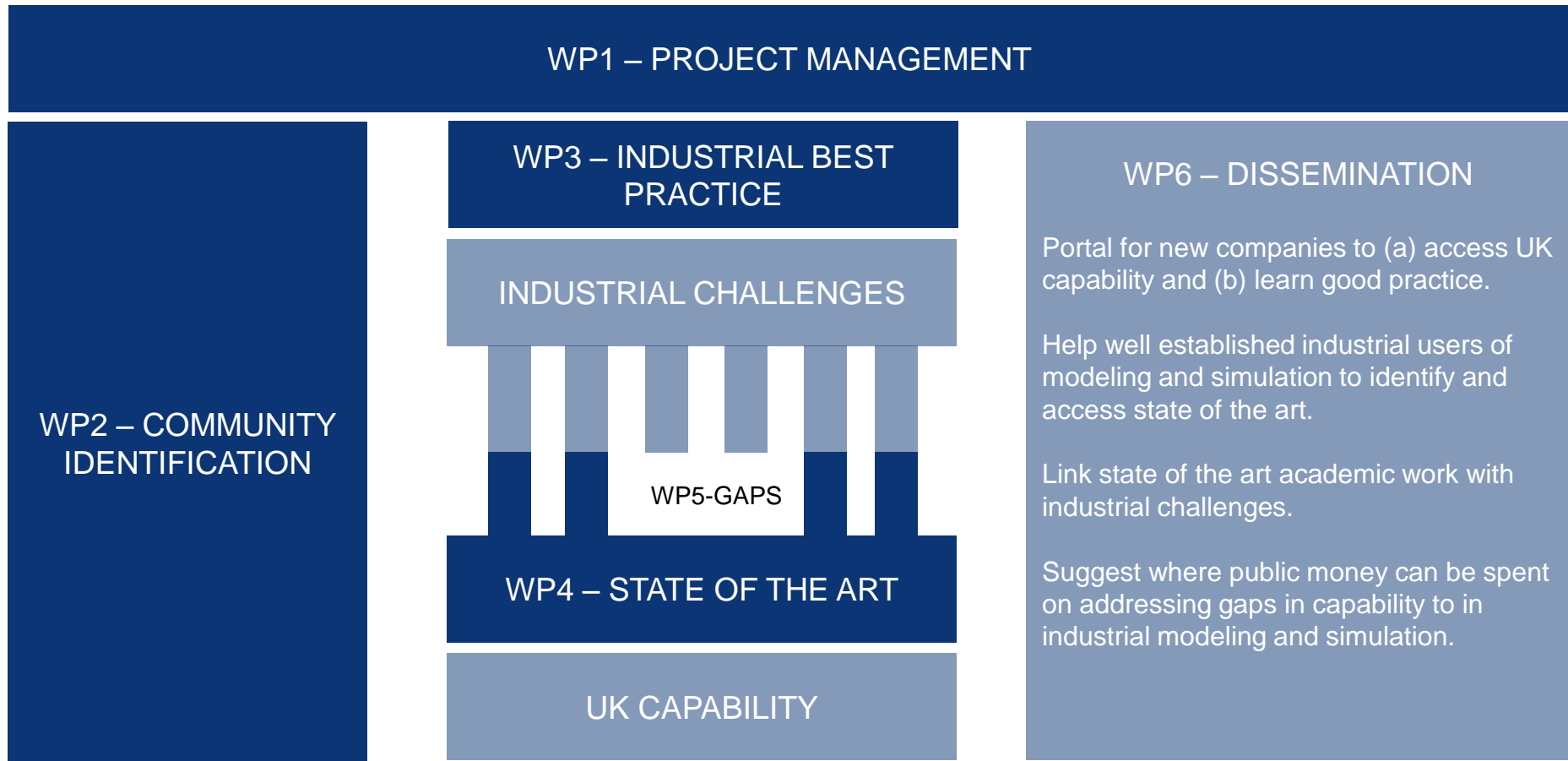


Using the outputs from WP2 KTN will engage with the academic community to determine leading researchers in UK and the state of the art in their simulation and modeling fields.

This engagement will involve direct discussions coupled with a community workshop to establish state of the art across the most important simulation areas for HVM.

An attempt will be made to obtain real case studies to illustrate current state of the art. Hardware and software integration and complexity generation to achieve reliable combinatorial approaches for maximum gain will be considered for both material/component behavior and overall system/product performance optimization prediction.

SIMBEST WORKFLOW

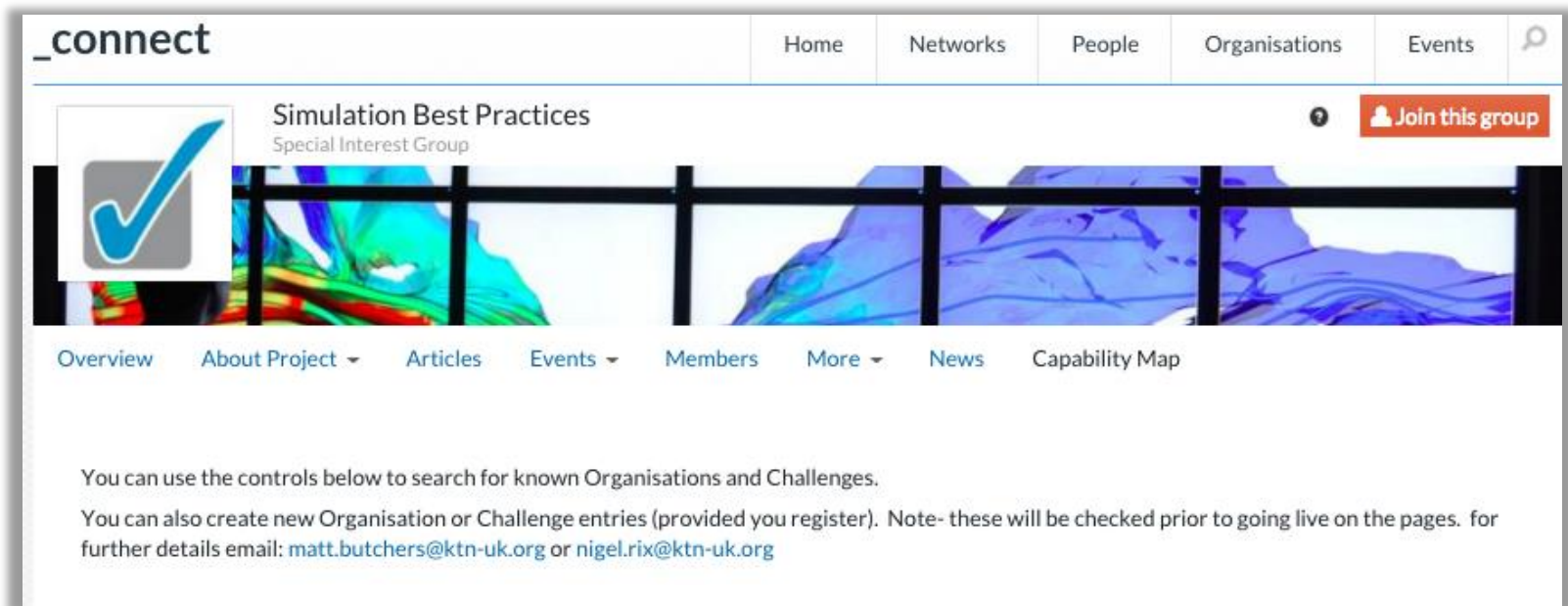


YOUR HELP NEEDED!

How to get involved

1. SimBest online website and Capability Map

<https://connect.innovateuk.org/web/simulation-best-practices>



The screenshot shows the user interface of the SimBest website. At the top, there is a navigation bar with the logo "_connect" and menu items: Home, Networks, People, Organisations, and Events. Below the navigation bar, the main header features the title "Simulation Best Practices" and "Special Interest Group" next to a "Join this group" button. A large banner image displays a colorful simulation of a mechanical part. Below the banner, a horizontal menu includes "Overview", "About Project", "Articles", "Events", "Members", "More", "News", and "Capability Map". The main content area contains introductory text: "You can use the controls below to search for known Organisations and Challenges. You can also create new Organisation or Challenge entries (provided you register). Note- these will be checked prior to going live on the pages. for further details email: matt.butchers@ktn-uk.org or nigel.rix@ktn-uk.org

<https://connect.innovateuk.org/web/simulation-best-practices>

The screenshot shows the 'Simulation Best Practices' group page. At the top, there are navigation tabs: Home, Networks, People, Organisations, and Events. Below the group name, there is a 'Join this group' button. A navigation bar contains links for Overview, About Project, Articles, Events, Members, More, News, and Capability Map. A red arrow points to the 'Capability Map' link. Below the navigation bar, there is a search section with a search bar and a 'Filter by Expertise' dropdown. Two buttons, 'ADD NEW ORGANISATION' and 'VIEW CHALLENGES', are circled in red. Below these buttons, there is a list of organizations, including University College London, Sheffield Hallam University, Imperial College London, University of Oxford, University College, and University of Newcastle.

**Capability
Map**

**List of challenges
and organisations**

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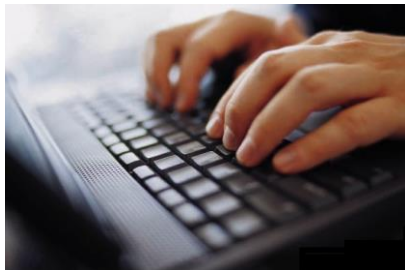
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How to get involved

2. Interviews with academics and research based organisations

- The KTN is approaching leading academics across the span of modeling and simulation to draw out themes, and drivers for state of the art research that can be mapped on identified challenges.
- This work will be crucial for the extraction of industrial gaps to be addressed by research councils



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SimBest website<https://connect.innovateuk.org/web/simulation-best-practices>

Thank you
Get in touch!!

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