

## WASP RESEARCH ARENAS - WARA 2.0

### What it is – Governance - Process

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## 1 Background

The main objective of the WASP Research Arenas, WARA, is to increase the value and relevance of research by strengthening and promoting collaboration between WASP researchers and industry partners. An important part of this is to enable and support collaborative research in challenging and complex scenarios, and also to jointly identify new research challenges in the context of these. WARA thus addresses industrially relevant system-level platforms and scenarios which are far beyond the reach of individual university labs. By creating these WASP state-of-the-art research infrastructures, academic and industrial researchers can conduct and demonstrate more theoretical and component-based research in challenging real-world system applications. This also promotes the potential industrial impact and commercial applications of the WASP research. WARA also supports PhD project courses, formulation of new research initiatives, increases the visibility of WASP research both in the media and among potential PhD students, post-docs, and future faculty.

An understanding has matured that the wanted impact of the investment in WARA has not yet been fully met. The analysis in the fall of 2019 and beginning of 2020 has concluded that the basic objective is still valid but that the strategy has to evolve. To attract industry engagement, the respective contexts have to be closer to the reality which the industry experiences. Also, for the academic engagement, the WARAs have to be more integrated and leverage on the other parts of the WASP program and focus should shift towards senior academic and industrial researchers collaborating, advising students in the context of the arenas and scenarios.

In addition, it is also clear that another category of arena is asked for, that is the development of basic general-purpose technology e.g. SW technology. In this case the participants and driving forces are quite different from that of a more industrial context and this has to be acknowledged and addressed.

At last, for leading industry representatives and senior researchers to meet and to find common grounds for collaboration projects, new activities have to be initiated, such as conferences, seminars etc. For example, the possibility to conduct smaller "bridging" projects with the help of limited engineering efforts has been asked for both in the context of the arenas and in a wide range of collaborations outside of the defined arenas. This leads to the definition of the "Industry Bridge" initiative described below as a complement to the arenas.

This document presents the WARA strategy 2.0 from 2020 and onwards.

## 2 WARA Instruments

The WARA Concept consists of two instruments: Arenas and Industry Bridge.

Whereas the Arenas target a broad participation around a scenario or Technology Platform with a longer duration, the Industry Bridge aims to evolve research results in a more focused collaboration between academic researchers and industrial partners.

### 2.1 Arenas

Arena concept is evolved according to these guiding principles:

- Build on five to eight new smaller arenas with a more focused context
- Seek and leverage on industrial/institutional motivation and ownership.
- Integration of WARA in other WASP instruments
- Two categories of arenas have been identified:
  - Scenario with high industrial relevance
  - General-purpose technology platforms to serve as research infrastructure where theoretical results can be validated on real-world datasets

It is also the ambition to establish networks of researchers and Industrial partners. This to further nurture the establishment of strong research in areas which are deemed of high importance by Swedish industry. The networks should be the hosts for workshops, conferences/seminars etc.

### 2.2 Industry Bridge

A flexible instrument to increase the number of participating companies is seen as an important addition to the WARA portfolio.

The bridge consists of funding of engineering time to implement research results for proof of concept which has been identified as a bottleneck in bridging the gap between research groups and industry. In many cases a limited effort in terms of man months would explore the possibilities offered and form the foundation for longer and deeper collaborations, and participation in the other instruments such as research arenas or industrial PhD projects. A collaboratively defined win-win project should involve at least one academic and one industrial WASP partner.

### 3 Criteria and requirements

Criteria	ARENA / Scenario	ARENA / Technology	Industry Bridge
<b>What</b>	Mimic an Industrial Scenario to validate how theoretical results can fulfill a mission. The Arena must have a defined Research Challenge	A Generic Technology Research Infrastructure where research results can be validated in collaboration. The Arena must have a defined Research Challenge	Peruse research one step further to demonstrate its commercial potential.
<b>WASP Partners</b>	3 or more Industrial partners with one taking ownership and 3 or more research groups.	At least 3 Industrial partners + 3 research groups where one part from industry or Academia takes on ownership.	Based on research performed within the WASP program. At least one academic and one industrial WASP partner.
<b>Affiliations</b>	Open to other research groups and partners to participate		Exclusive to researchers engaged in WASP program activities
<b>Funding</b>	Industry must fund at least 2/3 of total cost in terms of cash, in-kind or equipment.		Cost fully carried by WASP
<b>Expected Results</b>	Publications, Yearly Demonstration to WASP leadership and invited Partners (by industry adoption in commercial product or service)		Result shall be presented to WASP AMG/EXC groups and Board, possibly under NDA.
<b>Duration</b>	An Arena is approved for 3-years with possible prolongation by maximum 3-years each time		Maximum one year
<b>IPR</b>	If the parties in a program judge that the "Samverkansavtal" is not enough additional agreement can be setup between the parties. This will however not include WASP as an entity.		

## 4 GOVERNANCE

The Research Arenas is part of the overall WASP program, and the program director is a member of the Executive Committee.

- a) WASP Board is the main decision body for approval of WARA overall strategies, Arena proposals and Bridge annual budget. All material has before presented to the board been endorsed by the Executive Committee.
- b) The Executive Committee must approve plans and proposals before forwarded to the board for decision. The Executive Committee shall support the integration of WARA program into the WASP instruments.
- c) AMG is the executive steering body for the overall WARA program. See section below for details.
- d) WARA Project Group, being the operative steering group.

### 4.1 The Arena Management Group

The Arena Management Group, AMG, prepares proposal, budget allocation and follow-up on results as well as support the ongoing projects.

1. Participation:
  - WARA Director – Chair
  - WASP Program Office Representative
  - University Representatives from KTH, LiU, LU, CHT, and UmU
  - Graduate School director
  - Industry Representative/Project Manager from the “owner” of an Arena are adjunct to AMG
2. Meeting frequency – quarterly preferable synchronized with Executive Committee and board meetings.
3. Charter –
  - i) to evaluate the overall program,
  - ii) evolve the program accordingly, and
  - iii) to review and recommend new Arena proposals as well as Bridge proposals

### 4.2 The WARA Project Group

The WARA Project Group is the operative steering body for the Arena projects.

NOTE: the industry Bridge projects are followed up by the WARA director separately. The overall progress is also summarized and presented to the AMG group.

1. Meeting frequency – monthly
  - Participation:
    - WARA Director, Chair
    - WASP program office communication officer
    - Project responsible
2. Charter
  - i) Status reporting, need for communication,
  - ii) operative support and
  - iii) administrative support for e.g. events, conferences etc.

## 5 PROCESS FOR PROPOSAL, APPROVAL & EVALUATION

### 5.1 Proposal and approval process

A program proposal shall cover 3 years of operation and the approval shall cover this period. An application template shall be provided:

- a) A proposal can be forwarded at any time to the WARA director
- b) The Proposal has two phases:
  - i. One-Pager: short crisp presentation to communicate the main ideas reviewed by the AMG team
  - ii. Full proposal to be reviewed by AMG and decided by Executive Committee followed by the WASP board. Template is provided.

### 5.2 Evaluation process.

Program Evaluation is performed according to criteria defined below, in two phases:

- a) Evaluation of establishment 12months after start – review versus application
- b) Performance evaluation which shall take place at the end of year three

A program can be renewed in period of 3 years:

- a) A new updated full program proposal must be submitted
- b) For a renewed program there will be no establishment revaluation
- c) Performance evaluation shall take place at the end of the actual three-year period.

#### 5.2.1 Establishment Evaluation – year 1

**Description:** to evaluate and review the establishment of a program.

**Review:** will be made against the program description as approved by the board with focus on the identified early activities and engagement of researchers and industry.

**Purpose:** mainly to support the program in its establishment with resources, contacts etc. It is NOT meant to review research results.

**Who:** the review will be initiated by WARA director and performed by a selected members from AMG, Review Team. The result will be presented to Executive management and for information to the board.

**How:** a self-assessment by the program manager presented and discussed with the review team.

#### 5.2.2 Main Evaluation – year 3

**Description:** yearly evaluation of the program results against the intent of the WARA instrument as outlined in the WASP strategy

**Review:** to review results against defined criteria using template below

**Purpose:** to serve as a bases for a decision on future funding.

**Who:** the review will be initiated by WARA director and performed by a selected members from AMG, Review Team. The result will be presented to Executive management and for decision by the board.

**How:** a self-assessment by the program manager according to given template. The result will be presented and discussed with the review team, preferably in a face-to-face meeting.

### 5.2.2.1 *Template for year 3 assessment*

#### Status Report

A short, one page free text status report shall be prepared in addition to below data points:

#### Outreach

How well has the program succeeded in engaging Universities, companies, and students in its activities?

During last year of operation:

- i. # of Universities engaged
- ii. # of Companies engaged as Core Team  
# of Companies as associated in the program
- iii. # of researchers engaged (academic/industry)

#### Activities

What is the level of activities within the program? During the last year of operation:

- i. # of ongoing projects
- ii. # of events arranged by the program

#### Results

Academic results, patents and contribution to commercial ideas has been generated? In the last year and total:

- i. # of PhD thesis referring to the arena?
- ii. # of publications filed?
- iii. # of conference presentations?

#### Subjective assessment

Results and/or feedback which are not covered be above in free text. Describe how/when for whom demonstration of results has been performed. Plans for coming year which ought to be considered. A self-assessment and/or as feedback from other parties.

## 6 Budget process.

- A. The initial program proposal shall cover a budget for a 3-year period.
- B. The budget for the first year of operation is approved by the approval of its application
- C. Yearly budget review –
  - a. In Q4 each year, all ongoing programs must prepare a request for budget covering upcoming year – template to be provided
  - b. All requests will be reviewed by a team of university and industry representatives at the same occasion and a balanced budget allocation proposed

Final decision by the Executive Committee and the Board

## 7 COMMUNICATION

Communication is an important part of the WARA initiatives to inspire researchers and industrial partners to put forward ideas and work on proposals. Also, WARA can evolve the networks between academia and industry and make research results visible to industry and increase adoption rate.

The program, primarily the Arenas, shall thus, but is not limited to:

1. arrange open demonstration and publish results in scientific journals
2. Participate and present programs at different WASP events such as: Winter conference, Industry day
3. Establish research networks based on the programs to strengthen the community in Sweden, e.g., or in case networks already exist be active in the same.
4. Keep up-to-date information at the WASP webpage