

## EVOLUTIONARY TASK FORCE

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### SUMMARY OF WEEK 12+13 (16 - 30 JANUARY 2012)

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The most significant event in this period was in fact outside of the Evolutionary Task Force: the Board of Partners meeting in Stuttgart on January 19 (for Symbion and Replicator together). The most relevant items for our task force: 1) From now on Paul Levi will be coordinating both projects; 2) The highest priority is the production of the hardware; 3) In addition to the demo in simulation we will also do a demo in hardware during the review meeting. See the details below.

As for our task force, in the last two weeks we focused the activities by means of a grand TODO list that specifies the steps towards the demo of Grand-Challenge 2. It is a living document, the actual version can be consulted on the wiki: <http://symbion-ec.wikidot.com/summary:2>.

**S/T substance:** Integration of all approaches (into Robot3D) is underway.

- Docking: Wenguo's approach is integrated, but with a shortcut (through Stage). We are trying to remove the shortcut and make it pure Robot3D
- Morphogenesis: Explicit genome is written but needs integration. Implicit has not been chosen yet
- Locomotion controllers: AHHS and CPG are integrated. Waiting for Yao-Yao for GRN.
- Egg controller: Jean-Marc is working on it.

**Simulator issues:** New functions were implemented in Robot3D

- Vojta implemented getShapeOrganism that can tell the robots the shape of the organism they are in
- Lutz implemented the IR Messaging, this is needed for Wenguo's docking algorithm

**Computing hardware:** we need more machines to run Robot3D on

- Needs a fast CPU (high Mhz), multiple cores don't help
- 3D Graphics Card
- Memory is not that important
- Berend, together with Vojta and Jean-Marc, will make an inventory of computers we can use

**Robot hardware and the demo:** The idea is to demonstrate Wenguo's morphogenesis process with real robots. The Board of Partners agreed to collect all existing prototypes and ship 4 of them to Bristol. ETA: mid February. After this date Wenguo will be working on the hardware demo and will not (or hardly) be available for the simulation-based demo activities. Christopher and Berend are taking it over from him in the coming two weeks. Christopher focuses on the morphogenesis process, Berend on the docking