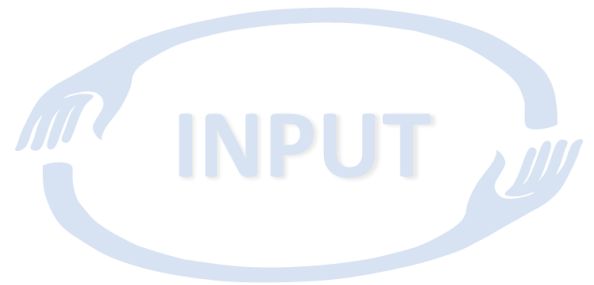


# DELIVERABLE REPORT



Project acronym: INPUT

Project number: 687795

D6.4, First Machine Learning System Implemented on Microcontroller

Dissemination type: DEM

Dissemination level: PP

Planned delivery date: 2018-04-30

Actual delivery date: 2017-06-02

Reporting Period: 2

WP6, Task 3, Implementation on Portable Hardware (lead: SUPSI-IDSIA)

## 1 DESCRIPTION OF THE TASK

“During this stage, suitable machine learning-based classification and regression methods, as determined in Task 6.2, will be implemented on a microcontroller integrated into a wearable prosthesis, and evaluated in a series of end-user tests (WP9). For local tests without end-users, OBHP will provide SUPSI-IDSIA with test hardware.

For this implementation, the quality of the recognizer and the hardware constraints have to be carefully balanced, furthermore observations obtained during the user tests will be integrated into the development loop. We note that we expect even relatively complex neural network based processing (see task 6.2) to be feasible on a microcontroller, as soon as the training process has been completed.

As with task 6.2, the main work for this task is to be finished at the end of year two. The remainder of this task will consist of an integrated loop of user tests and algorithmic improvements, tightly integrated with task 6.4.”

## 2 DESCRIPTION OF DELIVERABLE

“This deliverable contains the first implementation of a machine learning system for prosthesis control on a microcontroller. It allows to begin the main phase of patient testing “

## 3 CONTENTS

The implementation of the neural network-based machine learning system on a microcontroller provided by OBHP has been performed by SUPSI-IDSIA, following the specifications laid out in the project plan, and the results of deliverable D6.2. *The detailed description of the work performed is found in the companion deliverable D6.3.* The software itself has been made available to the project partners in an internal repository, we will furthermore give access to the project reviewers. The details are to be decided in collaboration with the project officer.