

GUSDON

Global University Space Debris Observation Network

Prof. Fabio Santoni, Paolo Marzioli

Sapienza University of Rome

fabio.santoni@uniroma1.it, paolo.marzioli@uniroma1.it

6th UNISEC Global Meeting

19-21 November 2018, International Space University

Strasbourg, France



SAPIENZA
UNIVERSITÀ DI ROMA



Introducing GUSDON



- A Global Observation Network for space debris that involves a great number of institutions in all continents
- An invaluable space debris infrastructure with a great educational return in the field of:
 - ❖ Hardware installation, operations, control
 - ❖ Data analysis of raw images
 - ❖ Data integration for orbit determination
 - ❖ Optimal observational strategies evaluation
 - ❖ Light-curve and spectroscopic analyses



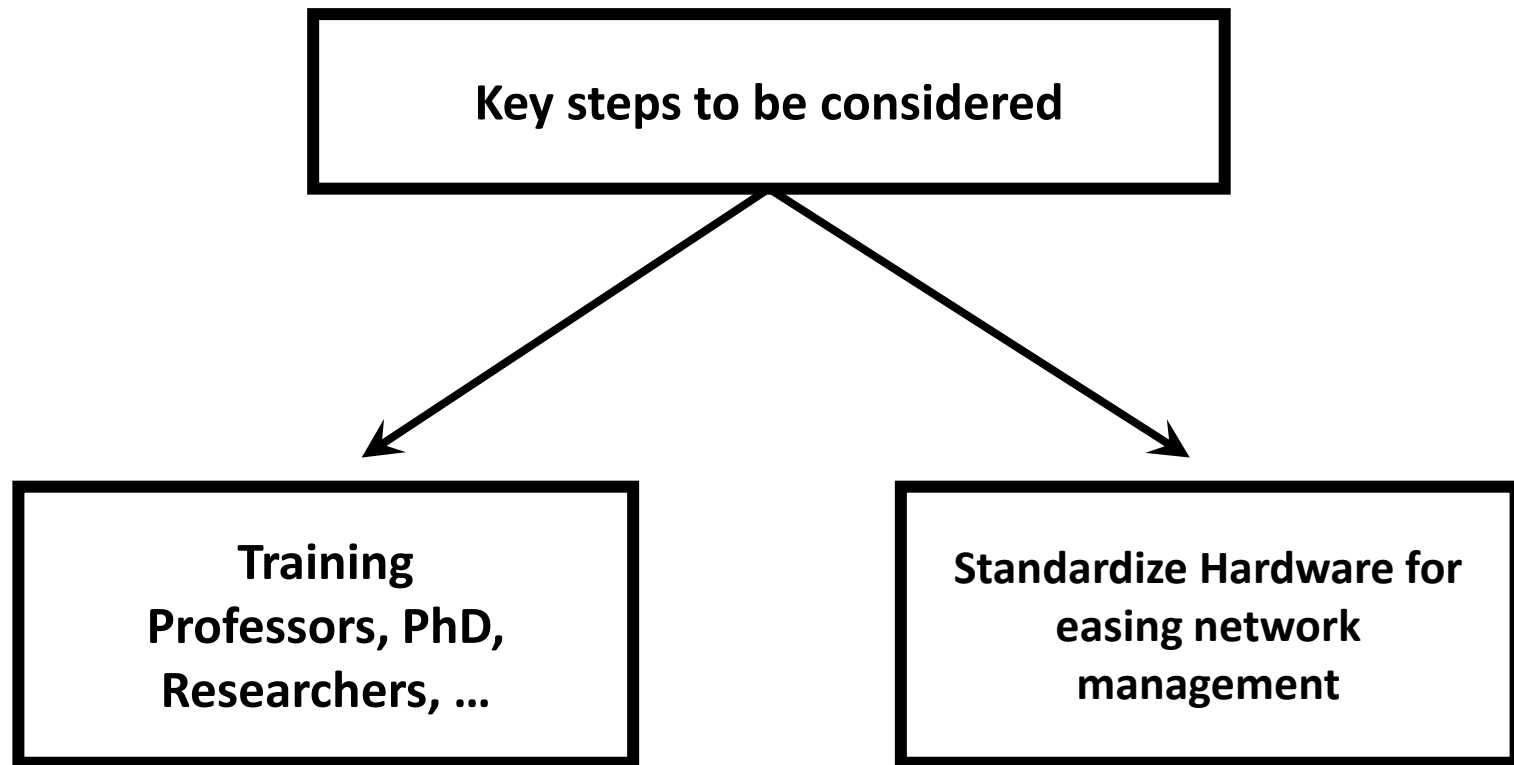


Participants

- Prof. Rainer Sandau
- Prof. René Laufer
- Prof. Nobuyuki Kaya
- Ms. Rei Kawashima
- Mr. Paolo Marzioli, PhD Student
- Mr. Andrea Bellome, BSc Student
- Mr. Luca Collettini, BSc Student
- Prof. Fabio Santoni (group moderator)
- Mr. Aurelio Kaluthantrige (assistant)

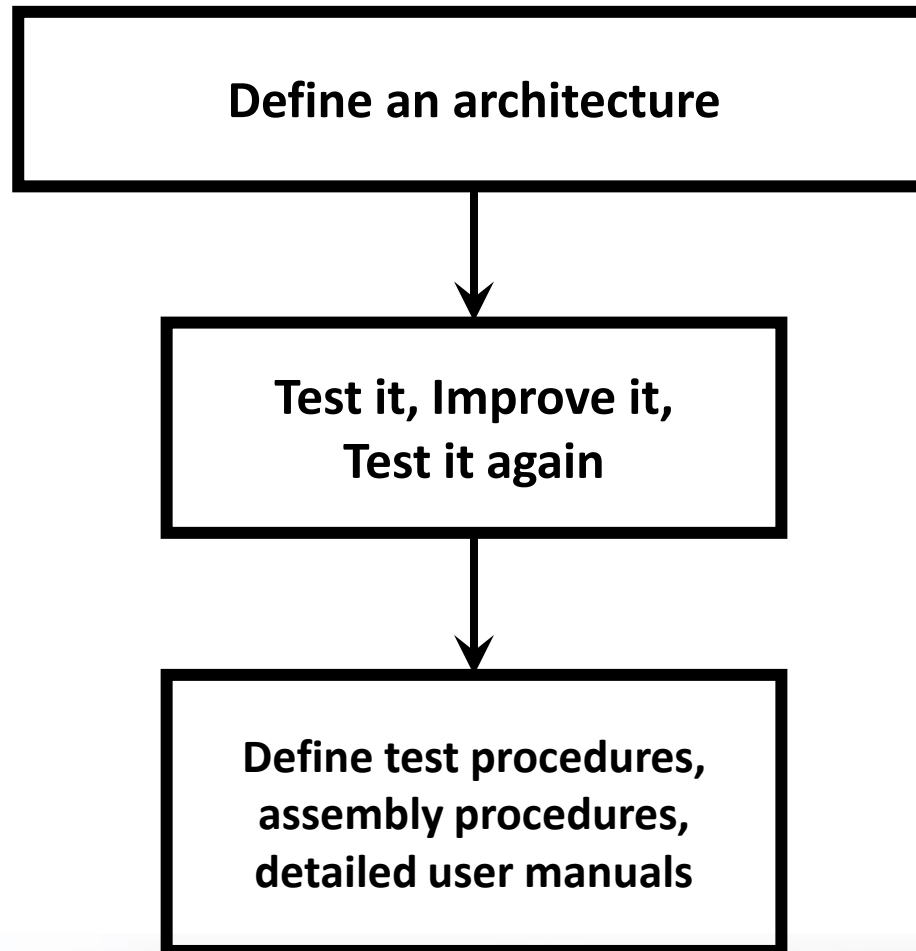


**Problem: the establishment of the GUSDON network
needs trained professors and standardized procedures**





Step 1: Focus on the network standardization



Step 2: Training course in Rome!



One week in Rome

**Tentative date: Sept/Oct 2019 (before IAC);
Alternative date: Feb 2020?**

**Theoretical training – afternoon classes
Practical training – evening sessions
(+ night-time observations)
Free mornings...**



Training course in Rome: Objectives

Theoretical Training

- To become familiar with optical observations of space debris, including:
 - ❖ applied orbital dynamics
 - ❖ astrometry
 - ❖ photometry
 - ❖ Etc...
- To understand the key aspects for a successful observation campaign (exposure, telescope settings, timing, scheduling, prioritization...)



Training course in Rome: Objectives

Practical Training

- To become a proficient user of the (standardized) observatory
- To be able to carry out an observation campaign without external support
- To perform basic observatory maintenance, in order to keep it in efficient operations
- At the end of the course, interested institutions can rent or buy telescopes for on-site training and for kicking off the observations!

Educational and Scientific Return

- To understand the major sources of scientific and educational return for all the people to be involved in the observatory network project

Conclusion



- We hope to show the results of the first edition of the training course at the next UNISEC Global Meeting!!!
- We hope many people to rent or buy telescopes to kick off their operations – and reporting them at the next UNIGLO!