# RESEARCH & USER SUPPORT (RUS) SERVICE

## BRICE MORA

Globbiomass meeting, 11-13 September 2017, Rome, Italy

# RUS is a service funded by EC, managed by ESA, and operated by CSSI and its partners

# Research & User Support (RUS)

- What for?

    - Foster the handling and processing of data from Copernicus missions by the Academic, scientific, R&D community, SMEs

    - Mitigate the "digital divide" affecting Copernicus data access and exploitation

    - Enhance and support the initiatives aiming at supporting Copernicus uptake

# The RUS Service

- ## How?

    - Offering unique access to free data and ICT resources to scale up R&D and early prototyping activities over large amounts of Sentinel products

    - Providing a specialized user helpdesk accompanying the service users in their activities with technical advice from a team of skilled experts

    - Offering open hands-on training sessions in Europe

        – Customized technical training

        – Training programme dedicated to future "trainers"

# The RUS Service

- For whom?
    - **Research users** □ Scaling up of algorithms on large amounts of core products
    - **Expert users** □ Process large amount of core products using Free and Open-Source Software (FOSS) or Commercial Off The Shelf (COTS) tools
    - **University classes** □ Use Sentinel core products with either own algorithms, FOSS or COTS
    - **Specific research/user communities** (e.g. EU Member States, Commission Services, Third Countries, SMEs, H2020 projects...) □ Request dedicated support to facilitate uptake of Sentinel core products

# The RUS Service Tasks

- Provide and manage resources for the service users
  - Sentinel and Copernicus Contributing Missions data
    - » open also to other data sources (e.g. Landsat, ALOS)
  - Toolboxes and software needed for data processing and prototyping activities
    - » possibility to install also own tools
  - Virtualised and scalable computing resources (VM or VM clusters) provided by dedicated cloud providers

- Support ownership of Copernicus space component by end-users
  - Capacity building
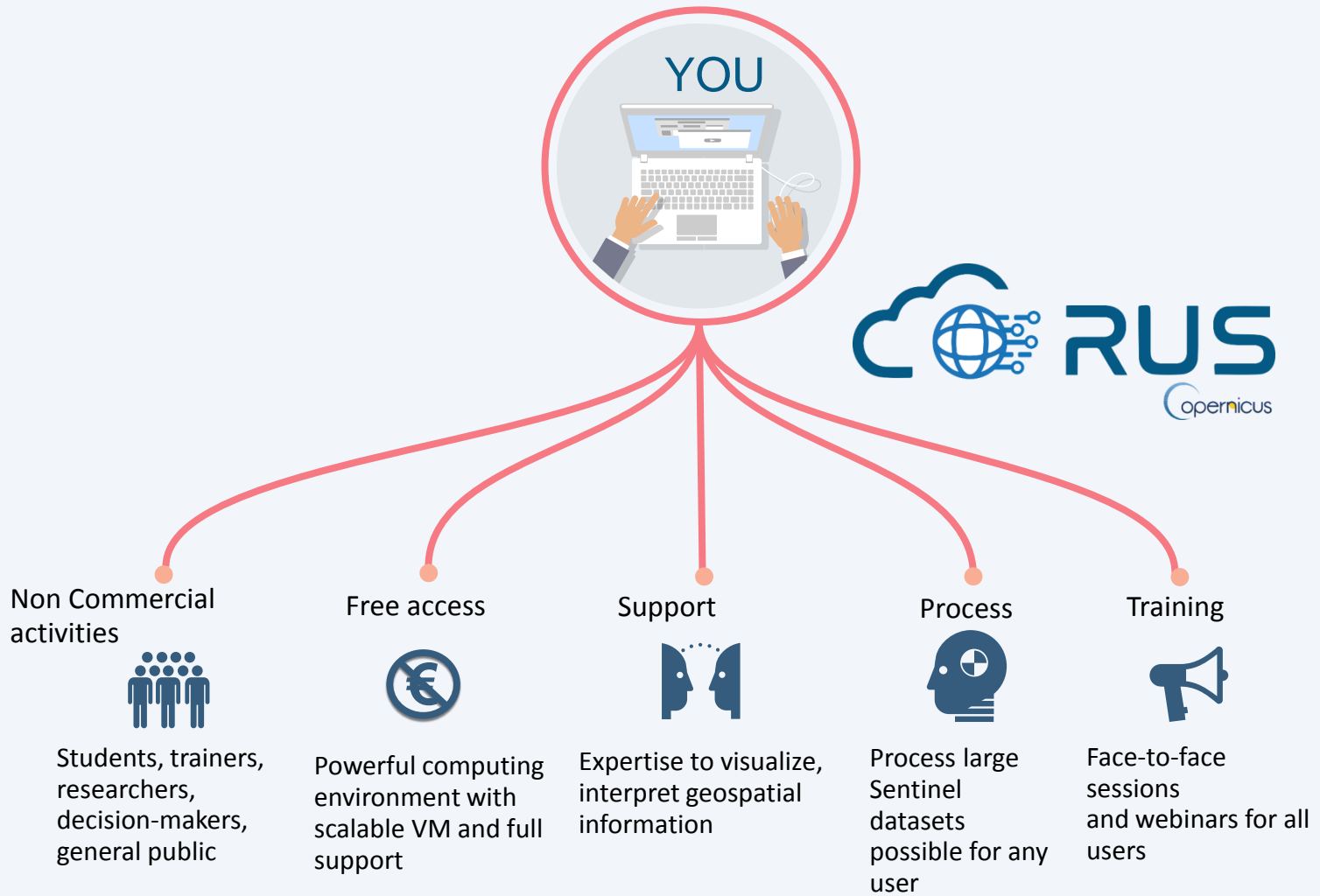  - Generic user training and training of Copernicus trainers
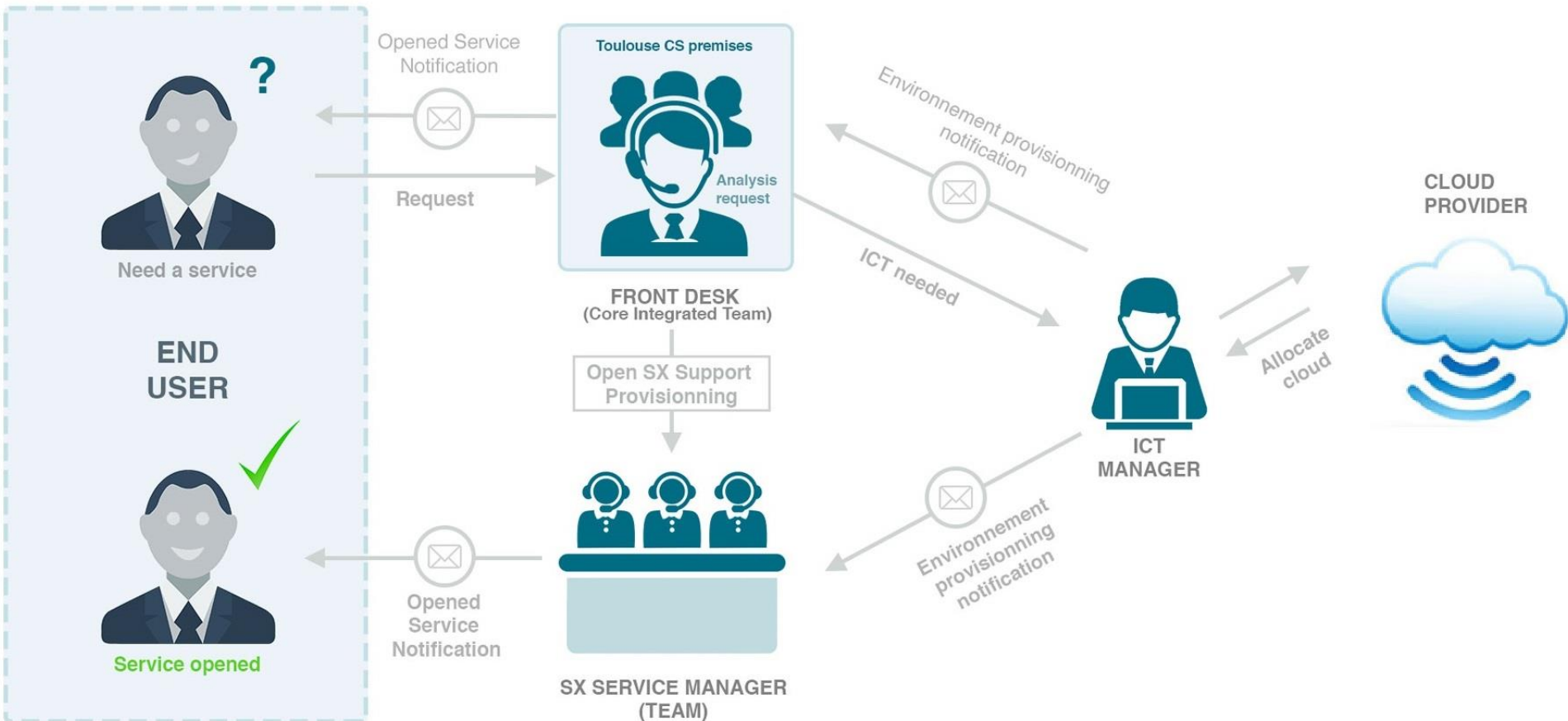
# RUS Typical Virtual Machine Content

- Processing environment
  - Sentinel-1/2/3 Toolboxes
  - SNAP4Cloud (built-on Apache Ignite)
  - Support tools
    - Sen2Cor
    - Sen2Three
    - SMOS Toolbox
    - NEST
    - Orfeo Toolbox
    - BRAT Toolbox
    - Rugged library
    - OpenCV
    - GDAL library
    - NCO
    - NETCDF
    - OpenJPG
    - Image Magick
    - QGis

- Development environment
  - Eclipse Mars
  - GCC
  - Cmake
  - Maven
  - Git
  - R
  - Eclipse Mars plugins
    - Pydev
    - CDT (C/C++ IDE)
    - StatEt
    - Cmaked
    - EGit

- Proposed training plan for RUS service
    - Through different event types
        - Invited (turnkey events)
        - Co-hosted (contribution to existing events)
        - Fully organised events
    - Through existing networks (Copernicus Info sessions - NEREUS, REC, UNOSAT, FAO, UNEP, EARSC, EARSEL…)
    - Organisation
        - Duration : from 1 day to a full 5-days course
        - Focus on Europe
        - 27 face-to-face events to be planned over 3 years

# RUS Project Schedule



**Phase-in** — 3 months

**Ramp-up** — 12 months

**Routine** — 24 months

**optional** — 24 months

April 2017

July 2020

July 2022

# Thank you for your attention

[brice.mora@c-s.fr](mailto:brice.mora@c-s.fr)

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