RESEARCH & USER SUPPORT (RUS) SERVICE

BRICE MORA

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European Space Agency

European Commission

Project funded by the EU and ESA

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

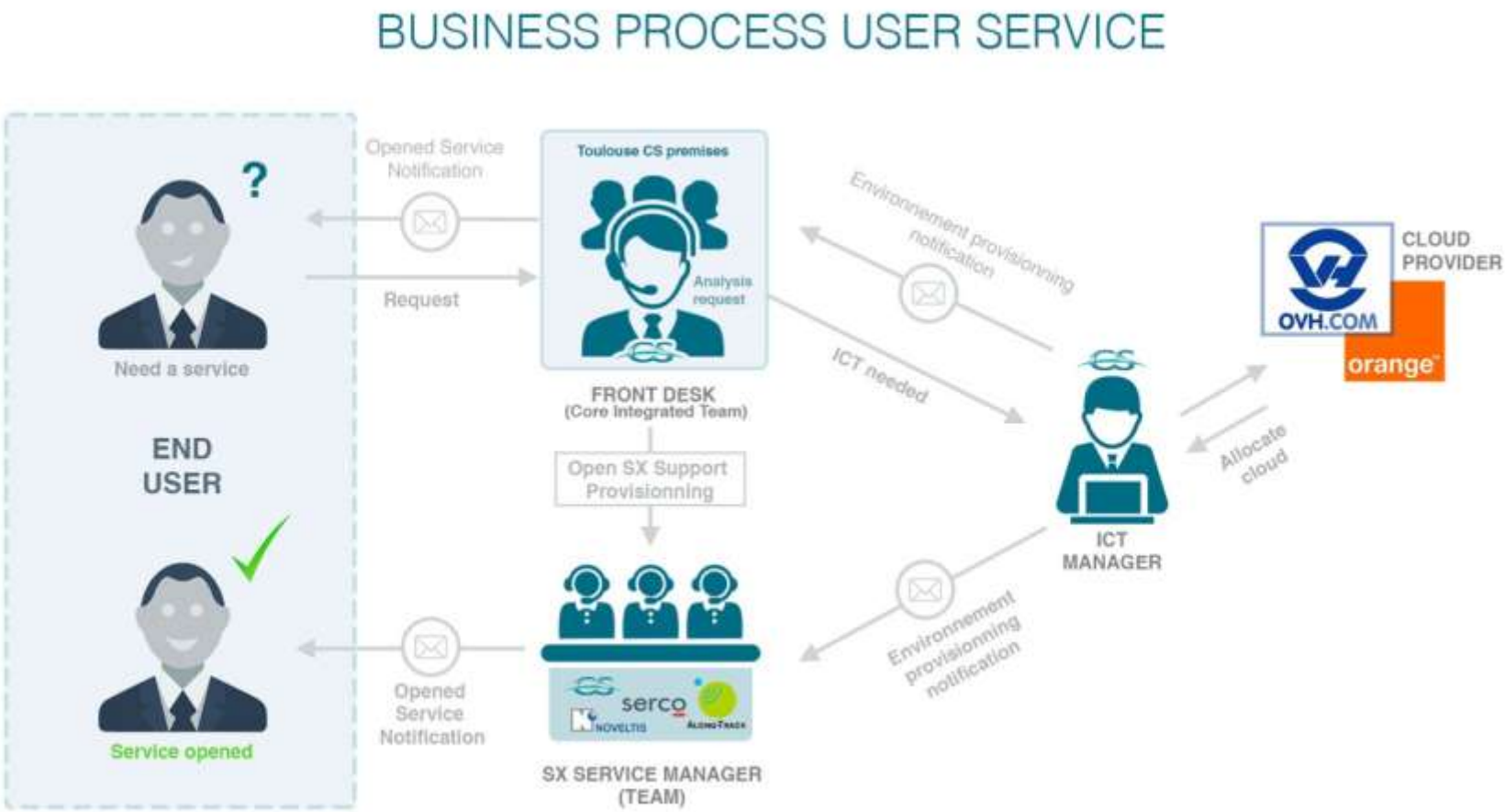
- For whom?
  - **Research users** → Scaling up of algorithms on large amounts of core products
  - **Expert users** → Process large amount of core products using Free and Open-Source Software (FOSS) or Commercial Off The Shelf (COTS) tools
  - **University classes** → Use Sentinel core products with 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 Consortium

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

The RUS Support Service



RUS Service Levels

- The RUS Service has been designed to accommodate as much as possible user needs and provide the appropriate support and ICT resources
  - User requests are analysed in order to estimate this support and these resources
  - User requests are answered following a 3-level classification
    - Basic support service (Level A), 1-3 month duration
    - Development support service (Level B), 1-6 month duration
    - Processing support service (Level C), 1-12 month duration

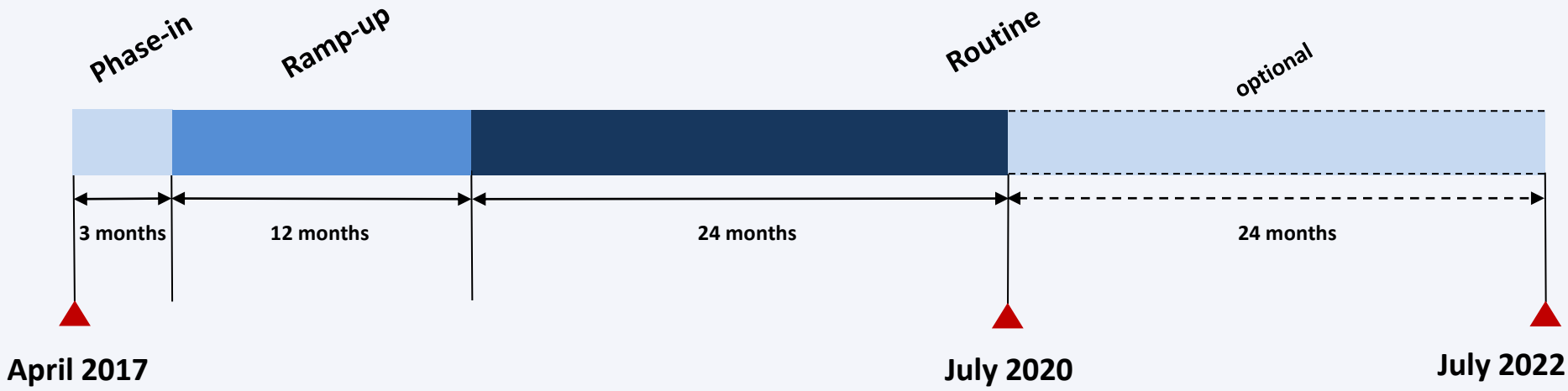
RUS Typical Virtual Machine Content

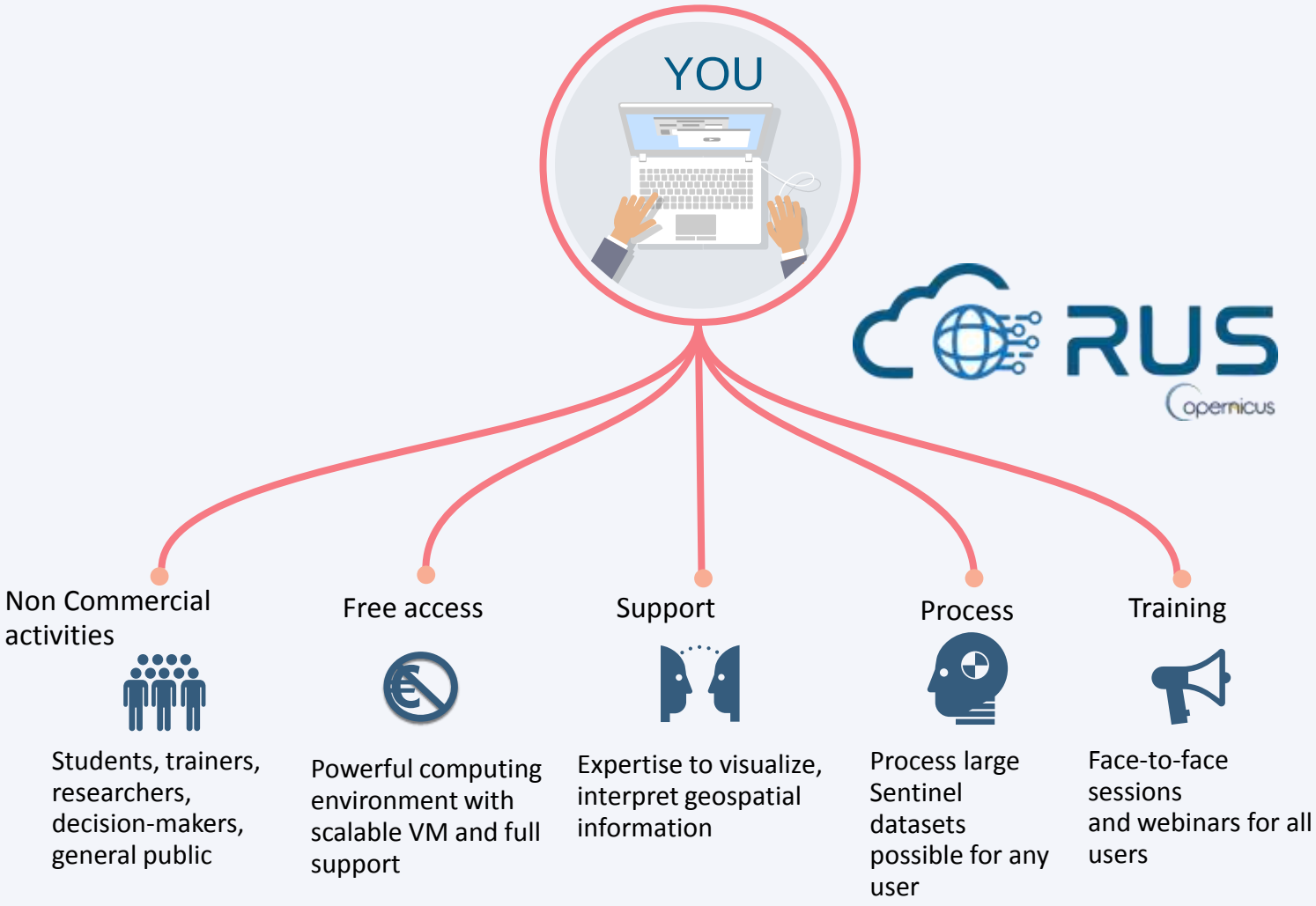
- Processing environment
  - Sentinel-1/2/3 Toolboxes
  - SNAP4Cloud (built-on Apache Ignite)
  - Support tools
    - Sen2Cor
    - Sen2Three
    - SMOS Toolbox
    - NEST
    - Orfeo Toolbox
    - BRAT Toolbox
    - Rugged library
    - OpenCV
    - GDAL library
    - NCO
    - NETCDF
    - OpenJPG
    - Image Magick
    - QGis
- Development environment
  - Eclipse Mars
  - GCC
  - Cmake
  - Maven
  - Git
  - R
  - Eclipse Mars plugins
    - Pydev
    - CDT (C/C++ IDE)
    - StatEt
    - Cmaked
    - EGit

RUS Training Activities

- 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




YOU
RUS
Copernicus
Non Commercial activities
Students, trainers, researchers, decision-makers, general public
Free access
Powerful computing environment with scalable VM and full support
Support
Expertise to visualize, interpret geospatial information
Process
Process large Sentinel datasets possible for any user
Training
Face-to-face sessions and webinars for all users

Thank you for your attention

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