



République Tunisienne
Ministère de l'Enseignement Supérieur et
de la Recherche Scientifique



Centre de Calcul El-KhwarizmiCCK
= New trends and future =
challenges

13 October 2022

Outline

Mission of CCK



A new Cloud architecture



Integrated information system



External WIFI



Mission of CCK



1 – WEB HOSTING

- 350 hosted websites
- 12 national applications



4 – DIGITAL PRODUCTION

- 6 events per year
- 6 training cycles per year
- 6 websites and web applications
- 5,000 scientific announcements

2 - MESSAGING

- 15,000 rnu and rnrt accounts
- 500,000 Microsoft accounts
- SMS sending



3 - NETWORKING

440 establishments connected
(from 20 to 200 Mb/s)



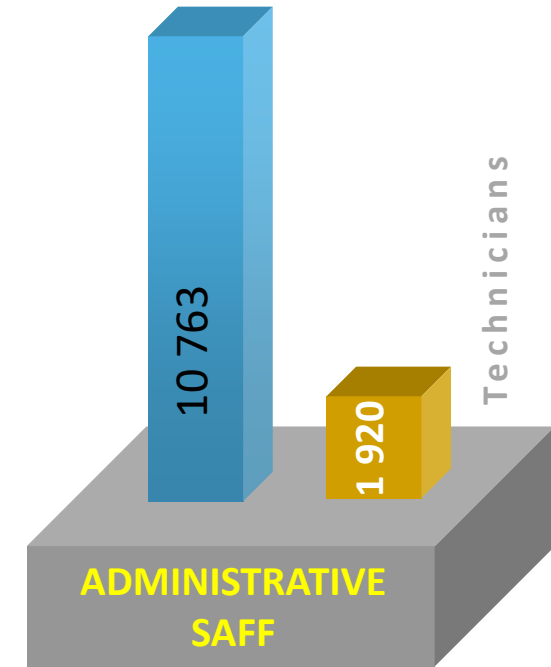
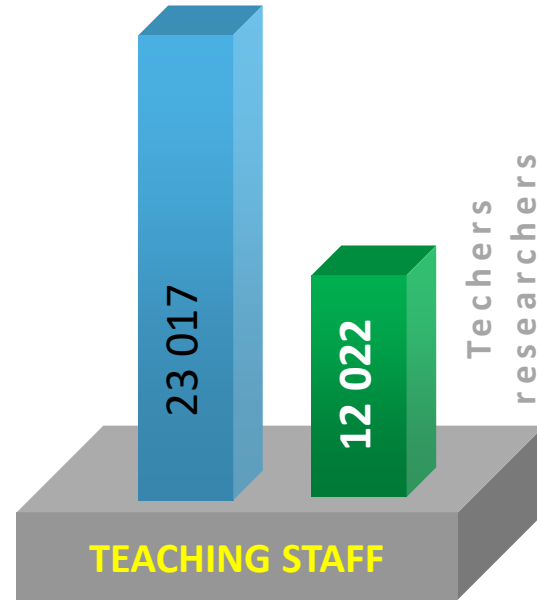
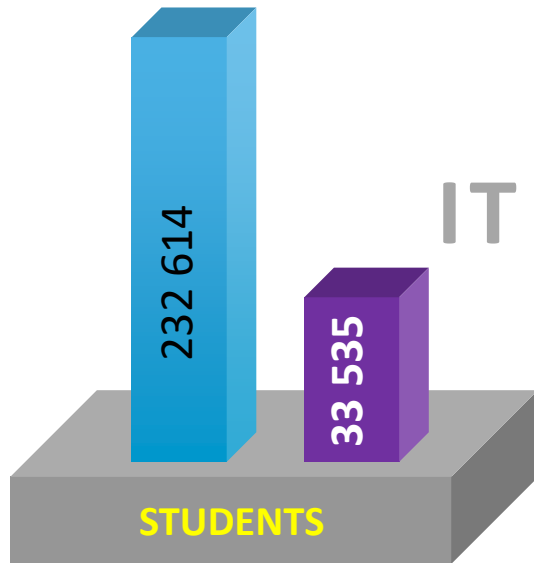
5 - SECURITY

- Security of all hosted applications
- Anti-virus





Some statistics





National academic network

2 KPI

- ✓ Budget for connectivity
 - ✓ Budget for social networks
- « Réseau national universitaire » in OF
 - A single datacenter for the whole community

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CCK Cloud

<https://console.cckcloud.rnu.tn>



3 Controllers



12 Computes (CCK zone)



12 Nodes Object Storage

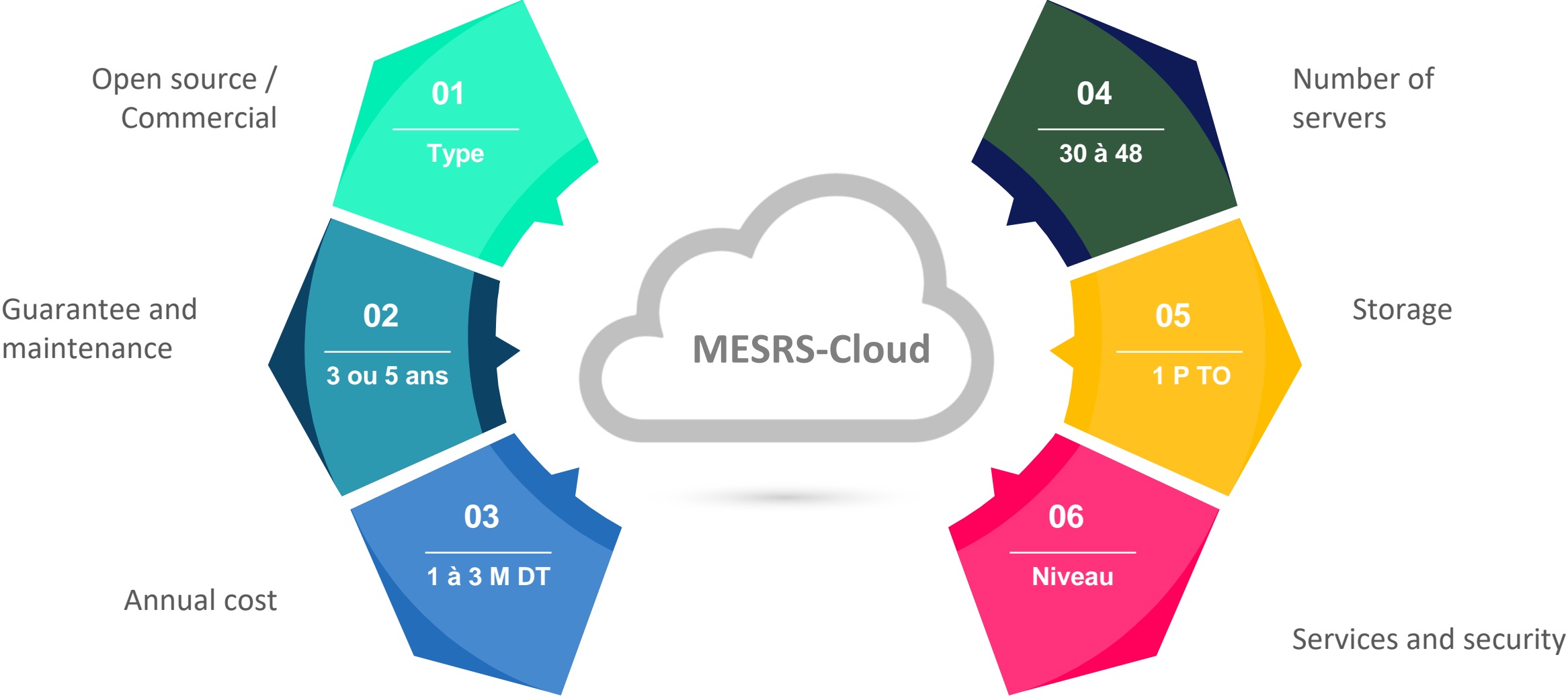


OceanStor 5500 V5

Block Storage



Community CLOUD



Cloud timeline



2022



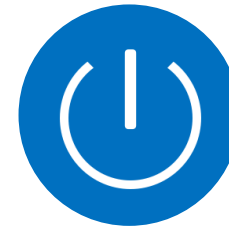
Hosted services

- BigBlueButton visioconferencing
- E-learning using Moodle
- Online practical courses
- ERP - An integrated and urbanized IS
- Remote desktop
- Students' projects

Infrastructure services

- *Virtual machines*
- *Automation and scaling*
- *Object storage*
- DNS aaS
- VPN aaS
- Load-balancer aaS

Calendar



Starting of the project

Janvier 2022



Technical committee

June 2022



Publication

October 2022

Budget



PAQ COVID'19

14 universities



Centre de Calcul El-Khwarizmi

مركز الحساب الخوارزمي
Centre de Calcul El-Khwarizmi



Logos of 14 universities participating in the PAQ COVID'19 project:

- UVT (Université Virtuelle de Tunis)
- ISET (Institut Supérieur des Études Technologiques)
- Université de Carthage
- Université de Gabès
- Université de Sfax
- جامعة الزيتونة (EZ-ZITOUNA UNIVERSITY)
- Université de Kairouan
- جامعة جندوبة (Université de Jendouba)
- جامعة قفصة (Université de Gafsa)
- UNIVERSITE DE MONASTIR
- UNIVERSITY OF SOUSSE (Socially Responsible University)
- جامعة منوبة (Université de la Manouba)
- جامعة تونس المنار (UNIVERSITÉ DE TUNIS EL MANÂR)

Chart-agreement with all universities



Protocol of cloud services usage



All universities will sign the agreement before starting production

Next cloud challenges

Software



AI

01



Big Data

02



Forms
recognition

03



SI

04



National
platforms

05

Cloud evolutivity

Hardware

01

Data Center
Manouba

2022

02

Backup
site

2023

04

North

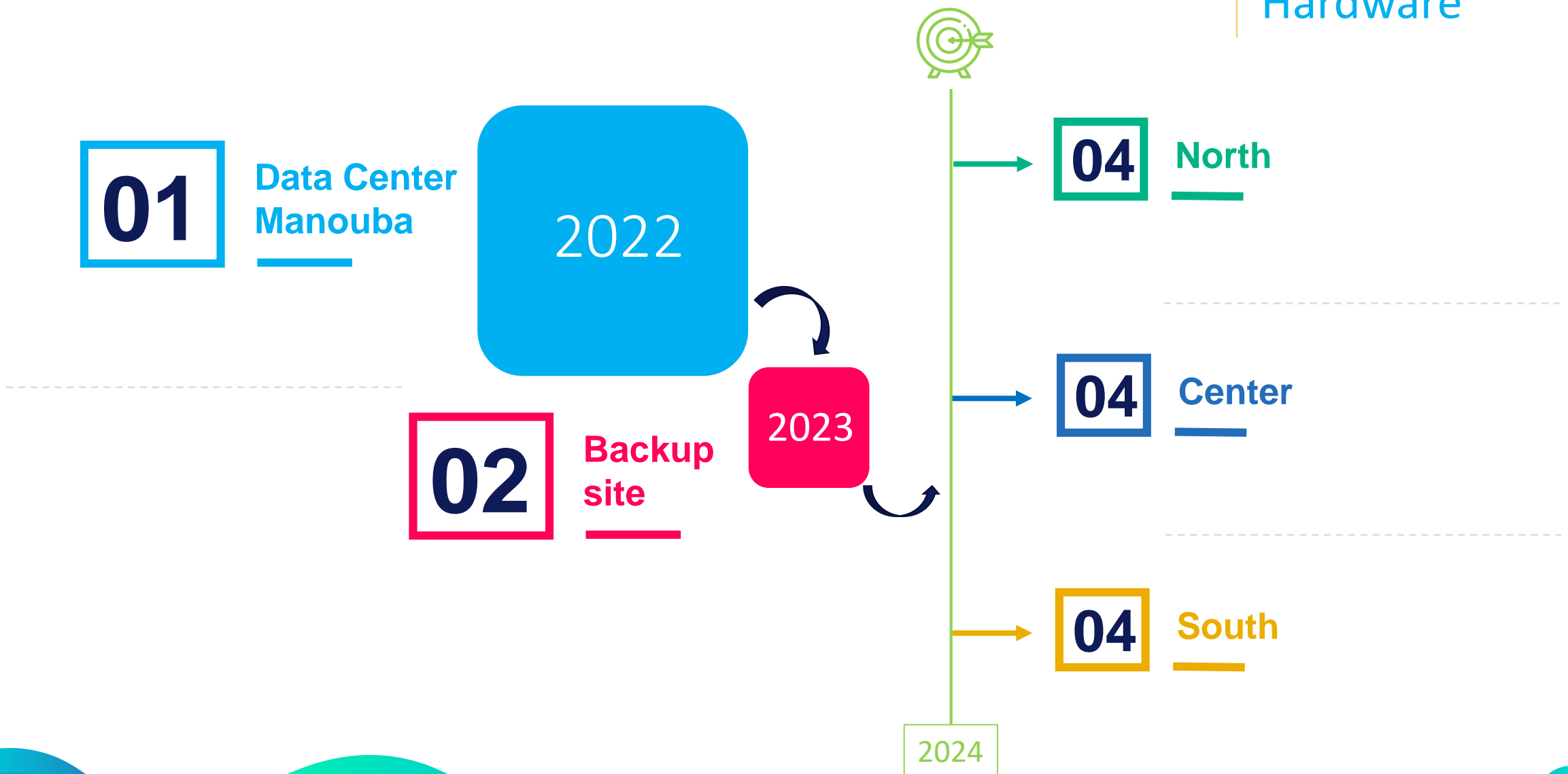
04

Center

04

South

2024



Evolutivity of the projet

2027

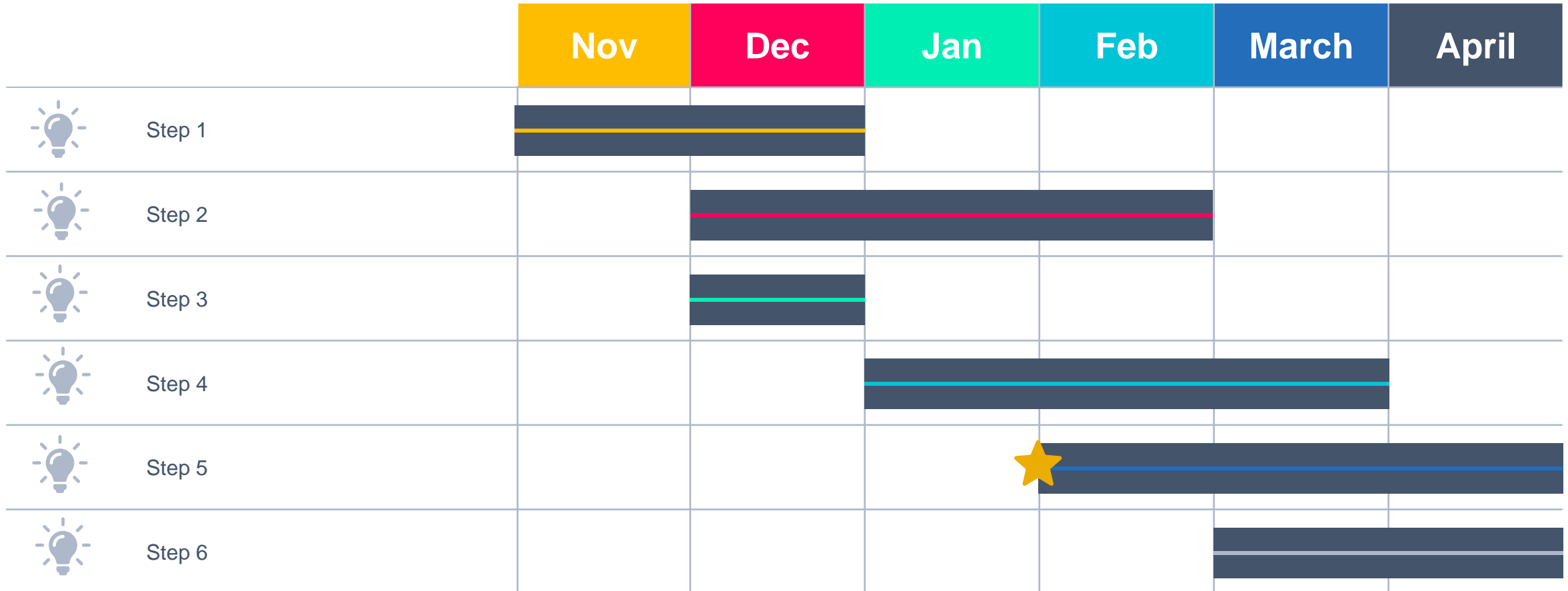


Vision



Calendar

2023



Validation of the phase ...

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External wifi coverage of 12 campuses : 120 institutions

Connection with OF

Coverage WIFI 6

Security





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