

DEVELOPMENT OF PLAN S MONITORING AND COMPLIANCE TOOL IN THE CONTEXT OF PTCRIS FOR PORTUGUESE NATIONAL SCIENCE FOUNDATION

IN SCOPE OF SAMA2020 FUNDING (POCI-05-5762-FSE-000438)

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12th May, CRIS2022



AGENDA

- WHY
- HOW
- WHAT
- Conclusions
- Future work



WHY?

Fundação para a Ciência e a Tecnologia (FCT)

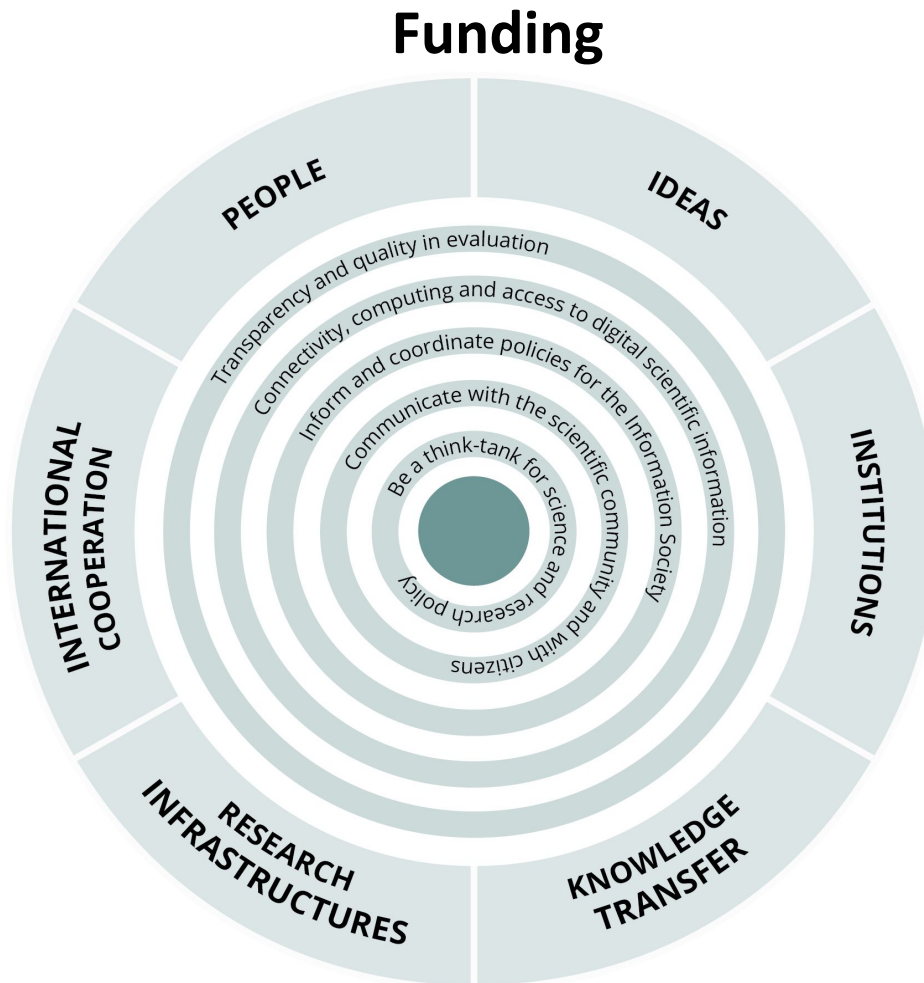
is the Portuguese national funding agency for science and research.

FCT is a **publicly-funded government agency**, under the responsibility of the Ministry for Science, Technology and Higher Education.

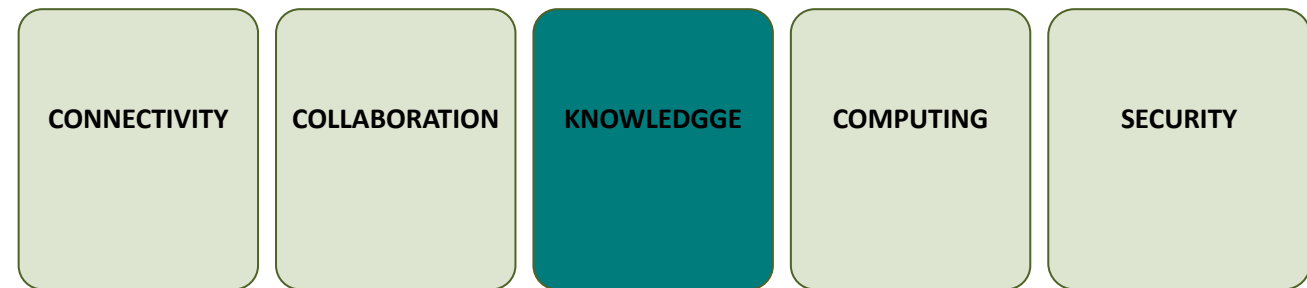
FCT's vision

- To establish Portugal as a **global reference for research and innovation**
- To ensure knowledge generated by scientific research **underpins social and economic development**

FCT ACTIVITIES



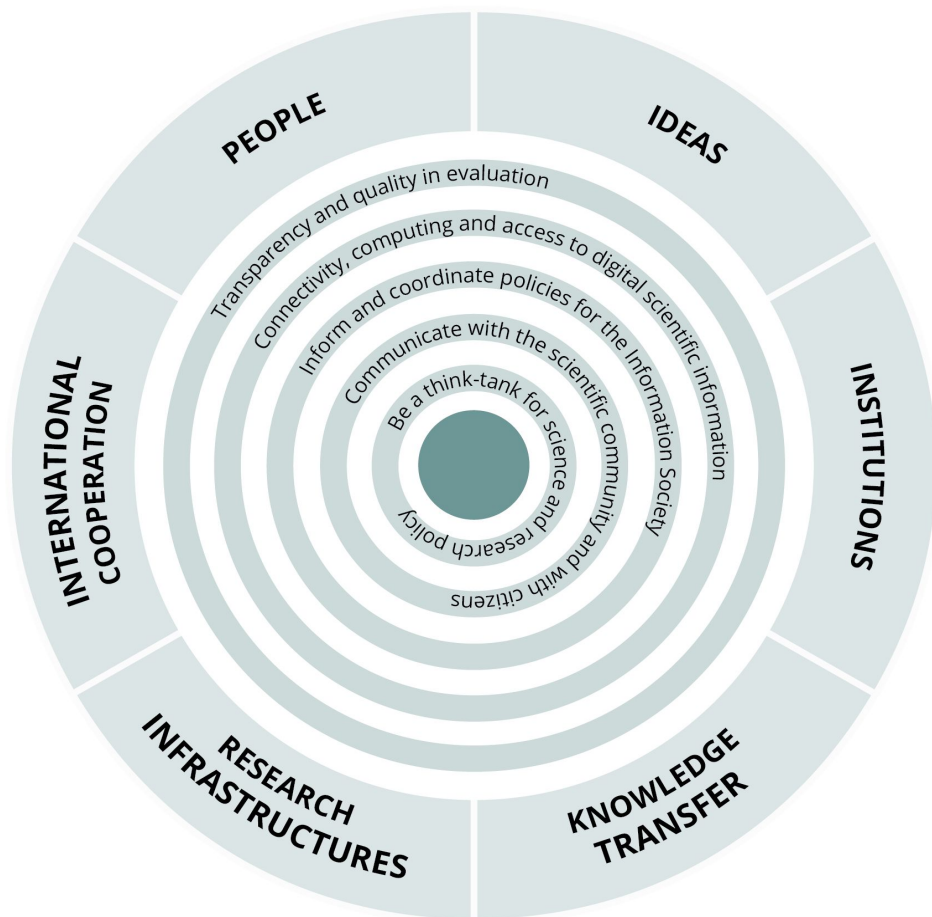
Unit FCCN – Technology for knowledge



FUNDING AND OPEN SCIENCE POLICIES



Funding



Open Science Policies



PORTUGAL STEPS IN OPEN ACCESS



2008

FCT

Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR



2014 / 2015



2021

FCT

Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR



2022 -



Open Science

2014



decreto-lei 115/2013

Teses & Dissertações

2019



Science Law 63/2019



EUROPEAN OPEN
SCIENCE CLOUD

FCCN

UNIDADE DA FCT

FCT

Fundação
para a Ciência
e a Tecnologia

FCT OPEN SCIENCE: 5 PILLARS (360 DEGREES APPROACH)

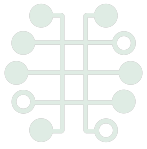
Policies and
Regulations

Funding

Services

Infrastructures

Training and
dissemination



OPEN SCIENCE ACTIVITIES



Publications			Data	Directory
Gold OA Read & Publish Publish and read	Diamond OA	Green OA Geridos comunidade	Research Data	Journals and Repositories
	  			

PTCRIS
Connected Research

CRIS



Policies and
Regulations

Funding

Services

Infrastructures

Training and
dissemination

**Open Science Policies
Monitoring and Compliance Tool**

MONITORING & COMPLIANCE GOALS



- **Monitoring and compliance with OS FCT policies (including Plan-S)**
- Monitoring OA Trend and spending on APCs (article processing charges)
- Monitoring transformative agreements



HOW?

0.77038

2.99005

1.55039

1.00582

0.66085

0.77038

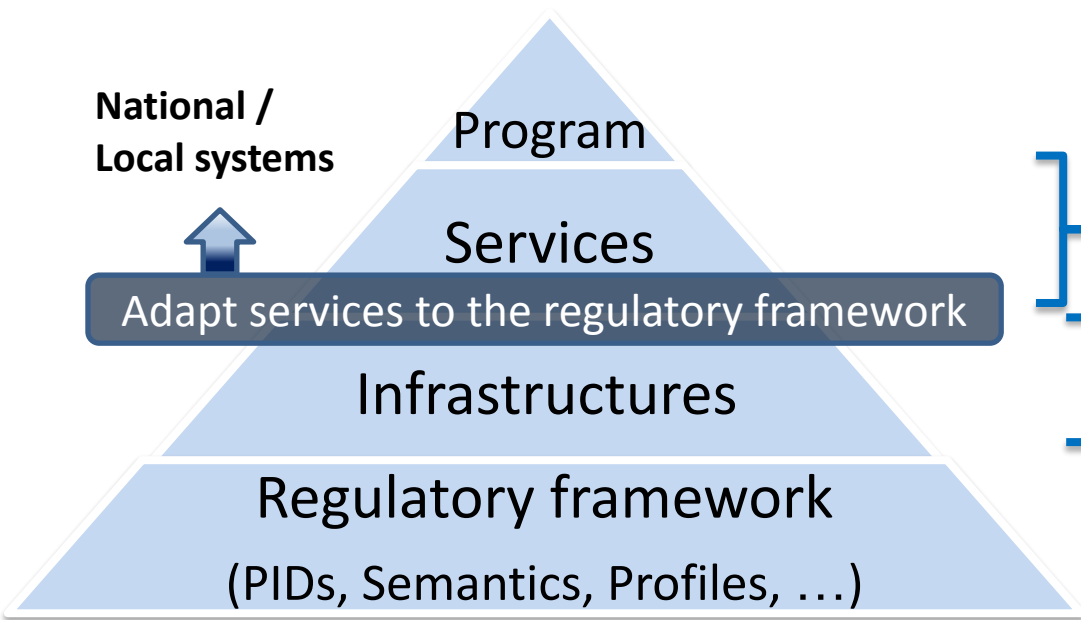
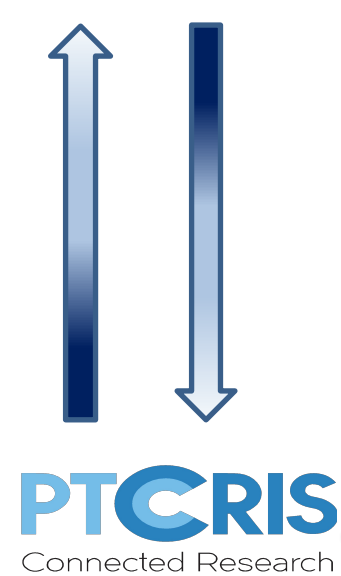
2.99005

1.55039

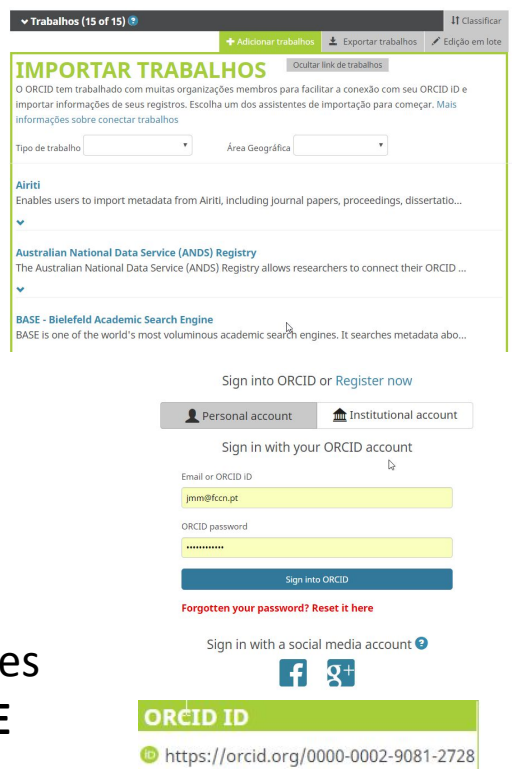
MISSION



Ensure the creation and sustained development of a regulatory framework and infrastructures to implement an integrated national information ecosystem (PTCRIS) to support the management of scientific activity.



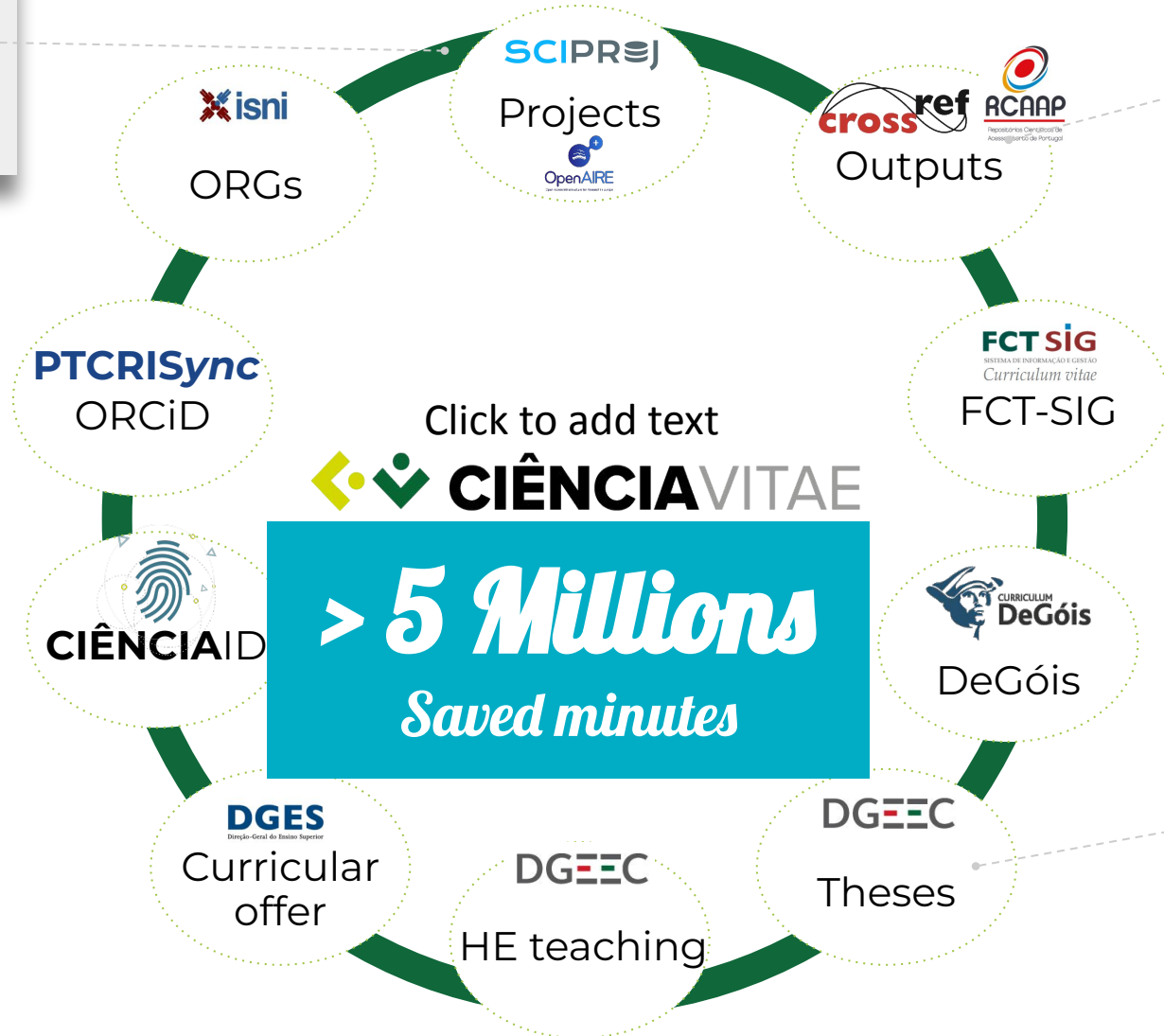
- Services ADOPT standards
- Infraestrutres enforce conformity
- Standards bodies /PTCRIS DEFINE standards



ACHIEVEMENTS

11 300
SciPROJ imported

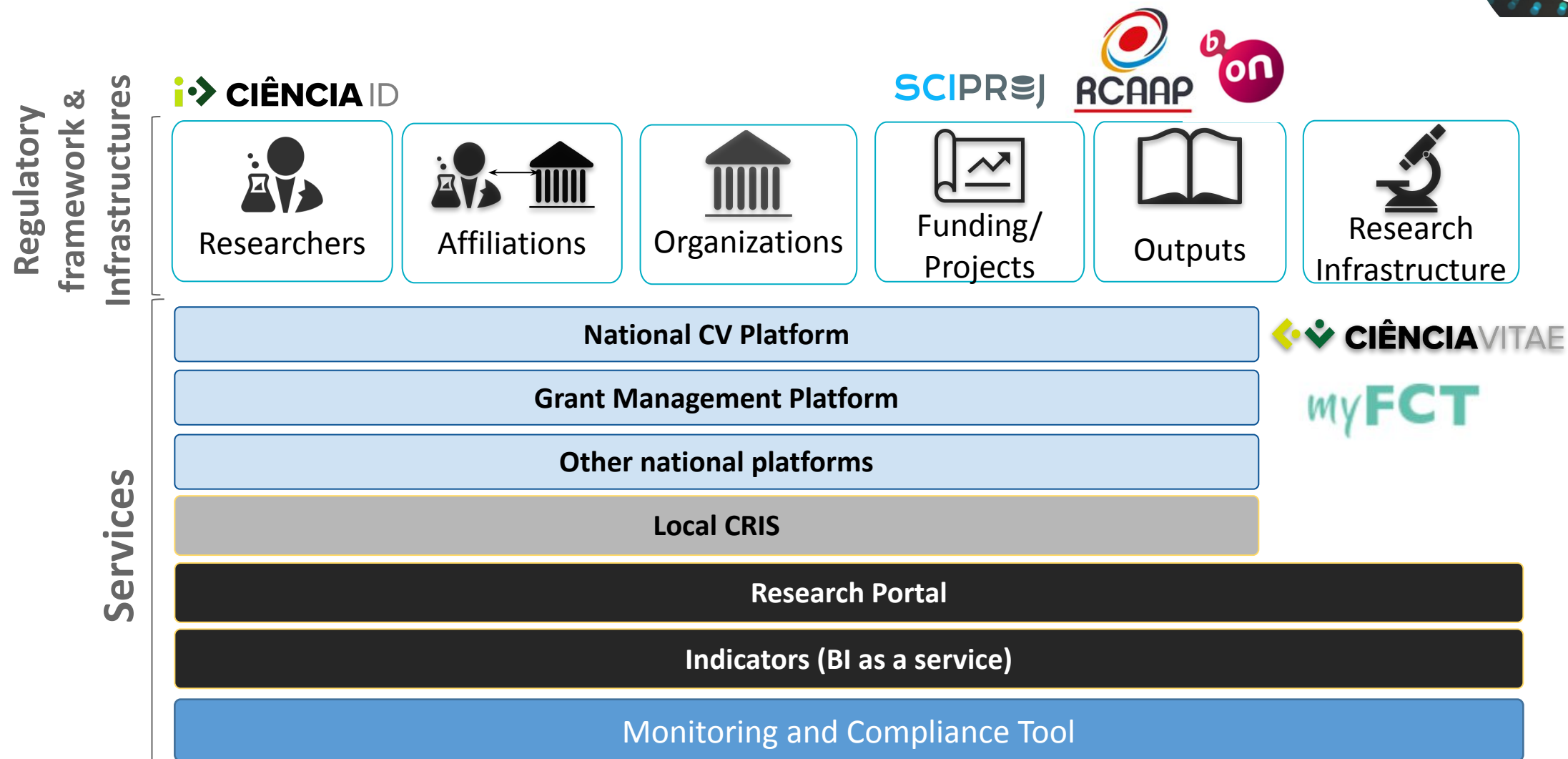
215 544
OA Imported records



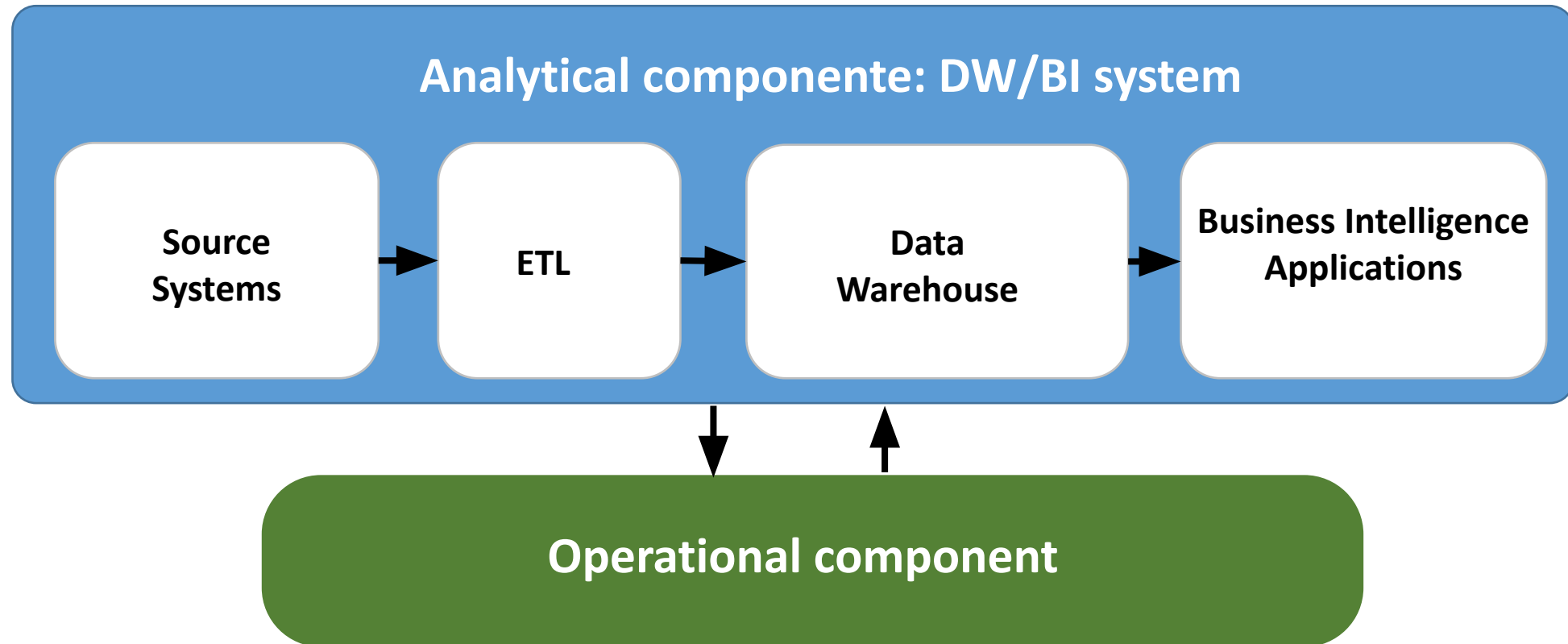
> 1.6 M
ORCID sincronized records

10 955
Theses & Dissertation imported records

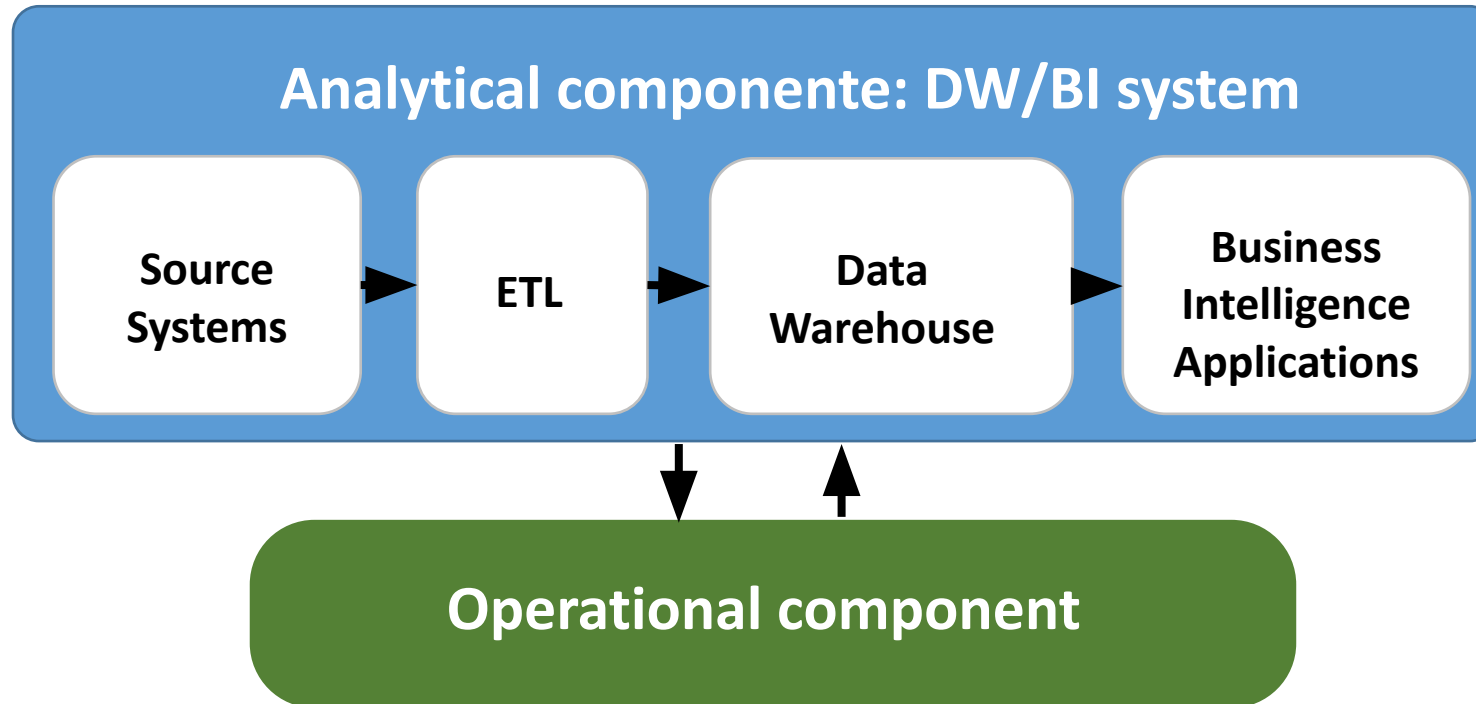
MONITORING AND COMPLIANCE SYSTEM (SMC)



CHOSEN APPROACH



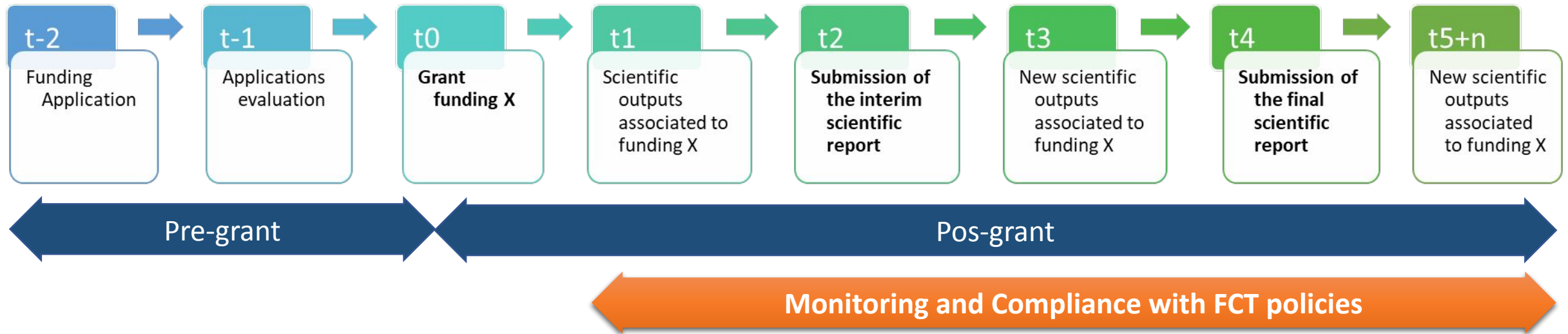
CHOSEN APPROACH



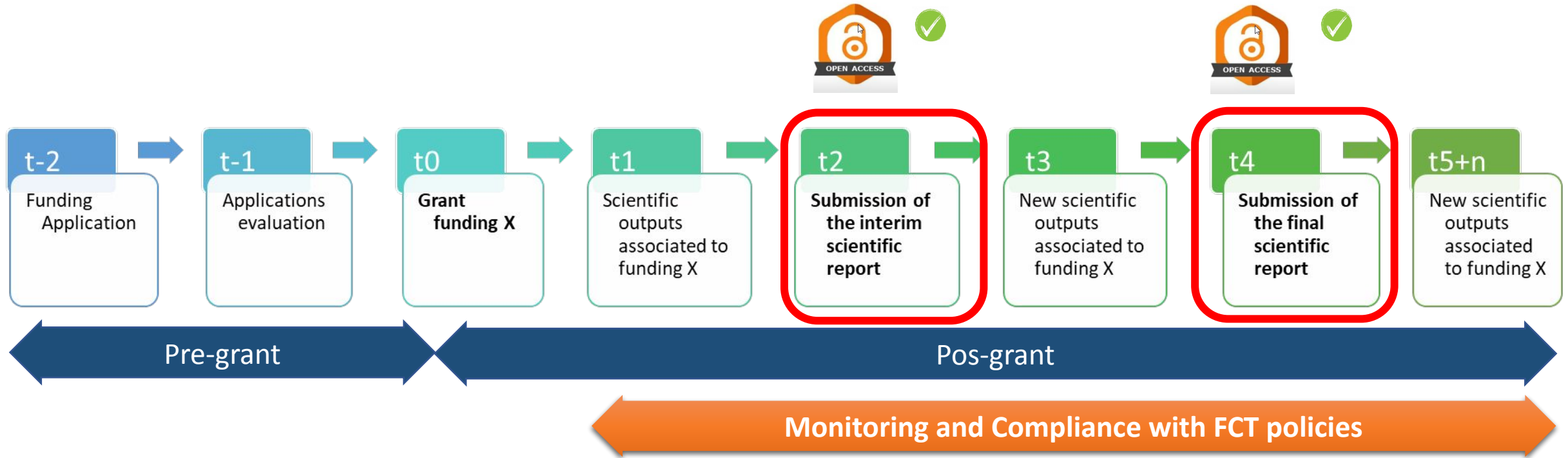
Calculates Scientific output compliance and produce OA indicators

Allows stakeholders to check and manage compliance

FCT FUNDING PROCESS



FCT FUNDING PROCESS



- 2 important moments to verify scientific outputs Compliance (submission of scientific reports)

COMPLIANCE RESULTS

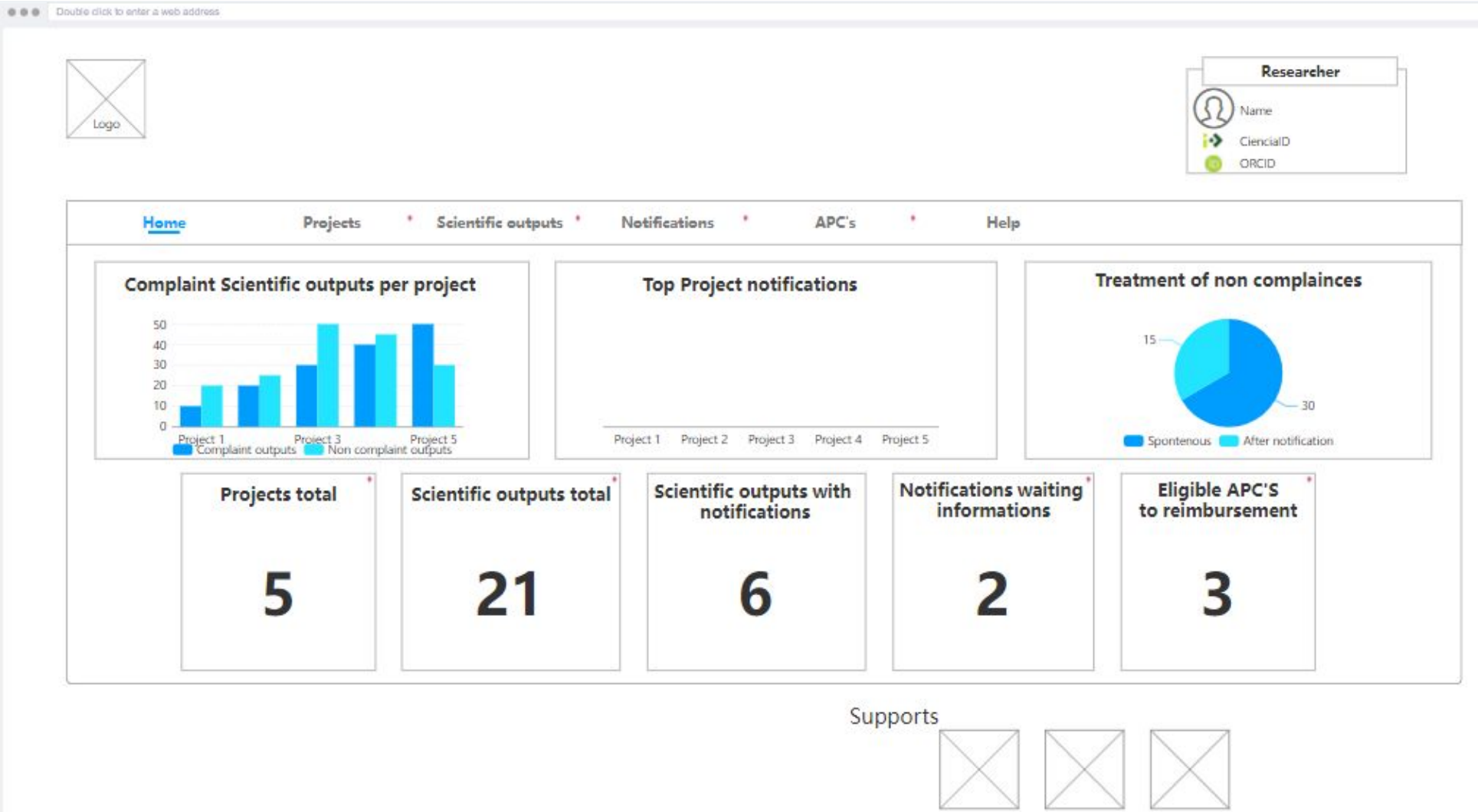


ID	Compliance		License	Repository RCAAP	Embargo	Version	Transformative agreement	OA journals or plataformas	APC's
	Plan S	FCT							
doi1	✓	✗	CC-BY	-	0	AAM	No	Yes	0
doi2	✗	✗	-	handle	0	prePrint	No	No	0
doi3	✓	✗	CC-BY	-	0	VoR	No	Yes	650
doi4	✓	✗	CC-BY	-	6	VoR	Yes	Yes	0
handle1	✓	✓	CC-BY	Handle	0	VoR	No	No	0
doi5	✓	✓	CC-BY	handle	0	AAM	No	Yes	0
doi6	✗	✗	CC-BY	handle	6	AAM	No	Yes	1320
doi7	✗	✗	CC-NC	handle	0	VoR	Yes	No	0
doi8	✓	✓	CC-BY	handle	0	VoR	No	Yes	976
doi9	✓	✓	CC-BY	handle	0	AAM	Yes	No	0



WHAT?

SMC PRELIMINAR MOCKUP'S



SMC PRELIMINAR MOCKUP'S



Logo

Researcher

Name

CiencialD

ORCID

HomeProjectsScientific outputsNotificationsAPC'sHelp

All fields

Search

+ Add line

+ Set dates

Notifications

Project (REF)

Scientific output (DOI)

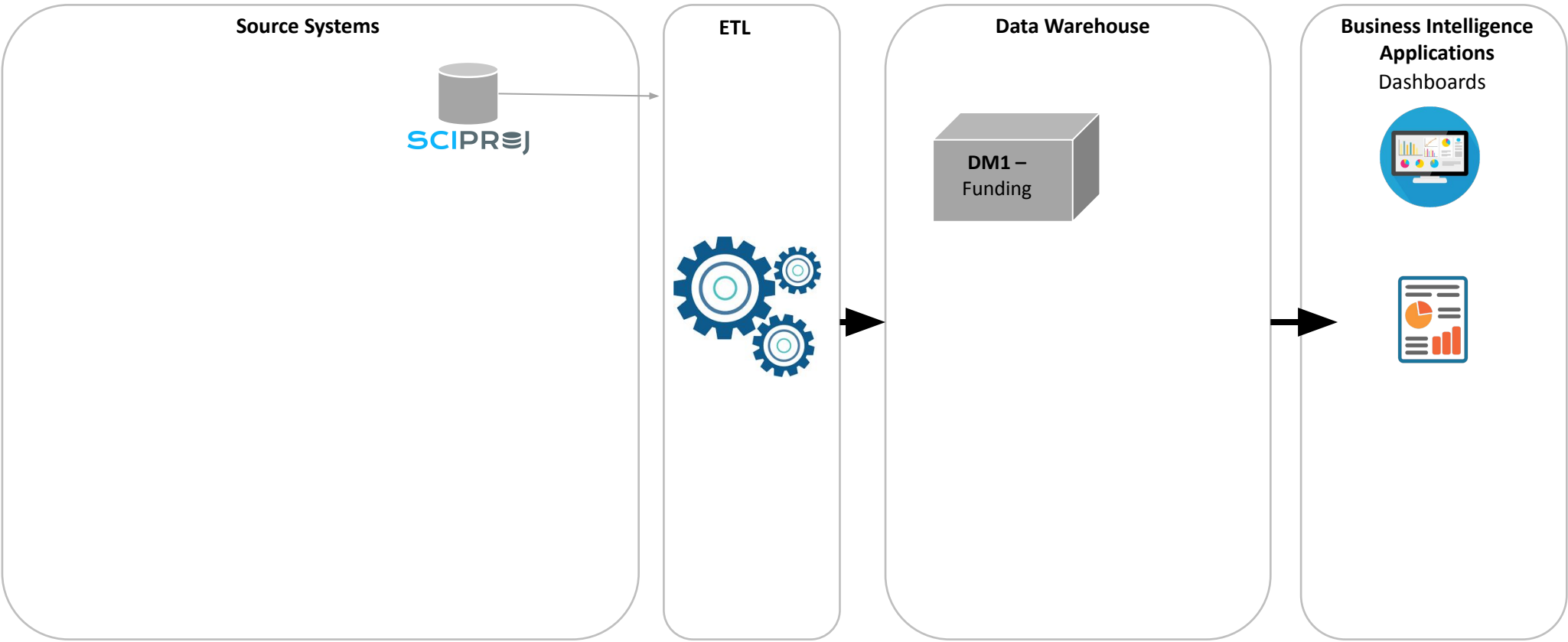
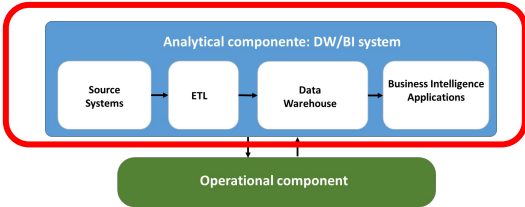
Compliance state

Creation date

Details

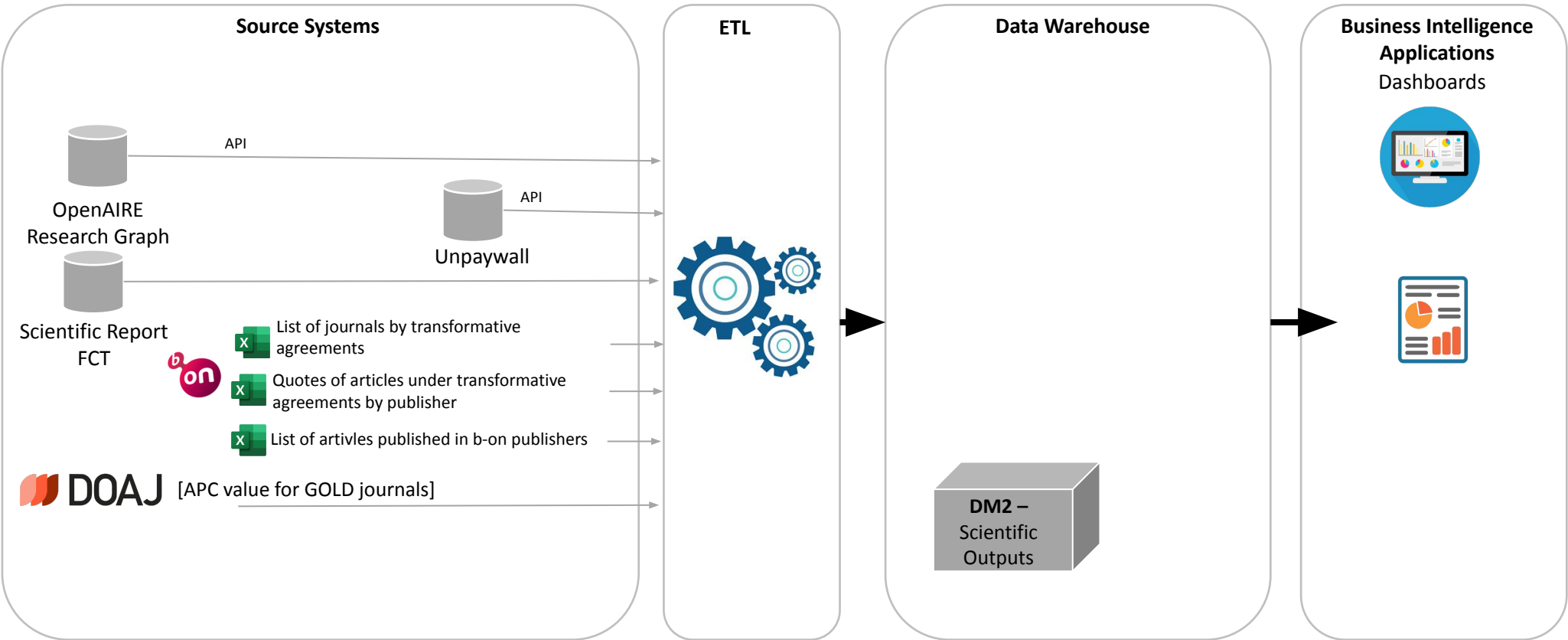
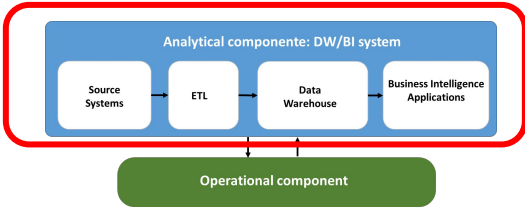
Supports

ANALYTICAL COMPONENT: DW/BI SYSTEM



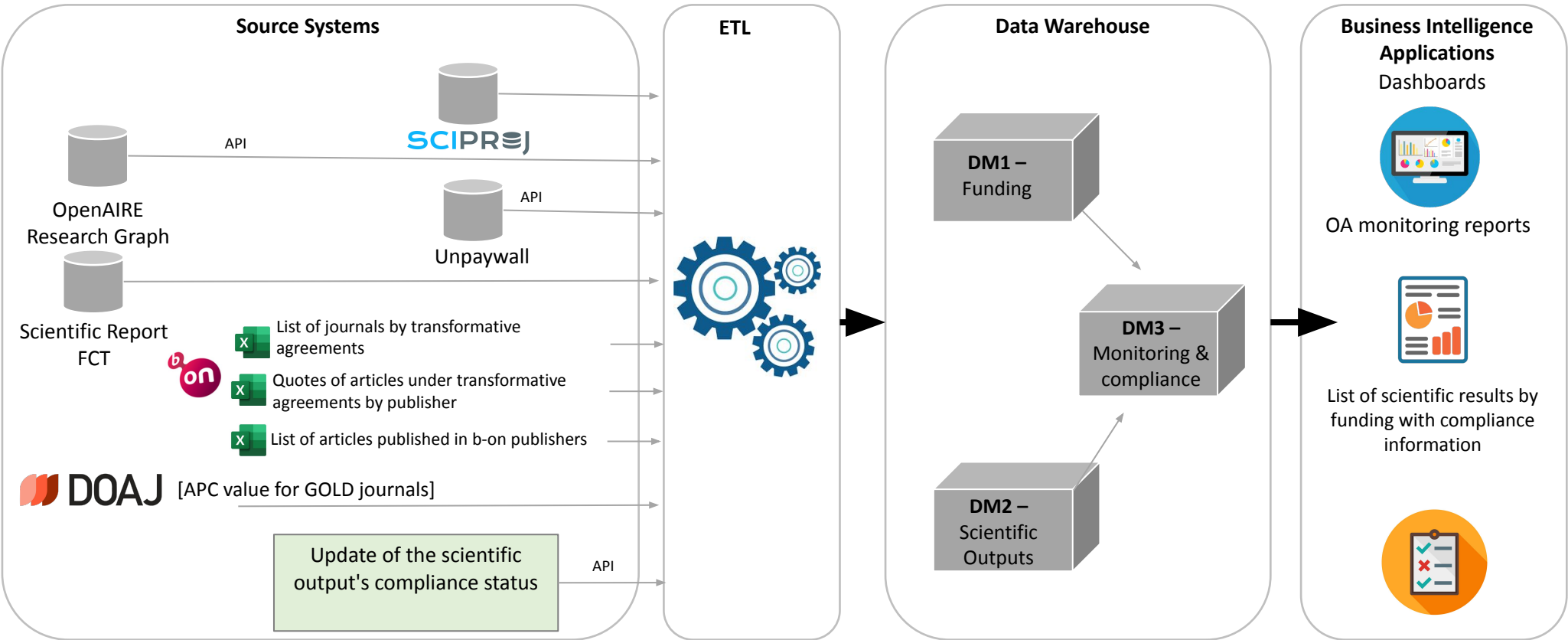
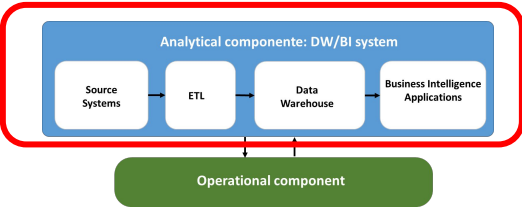
Data Mart 1 – Funding □ Analyze investment in S&T in Portugal

ANALYTICAL COMPONENT: DW/BI SYSTEM



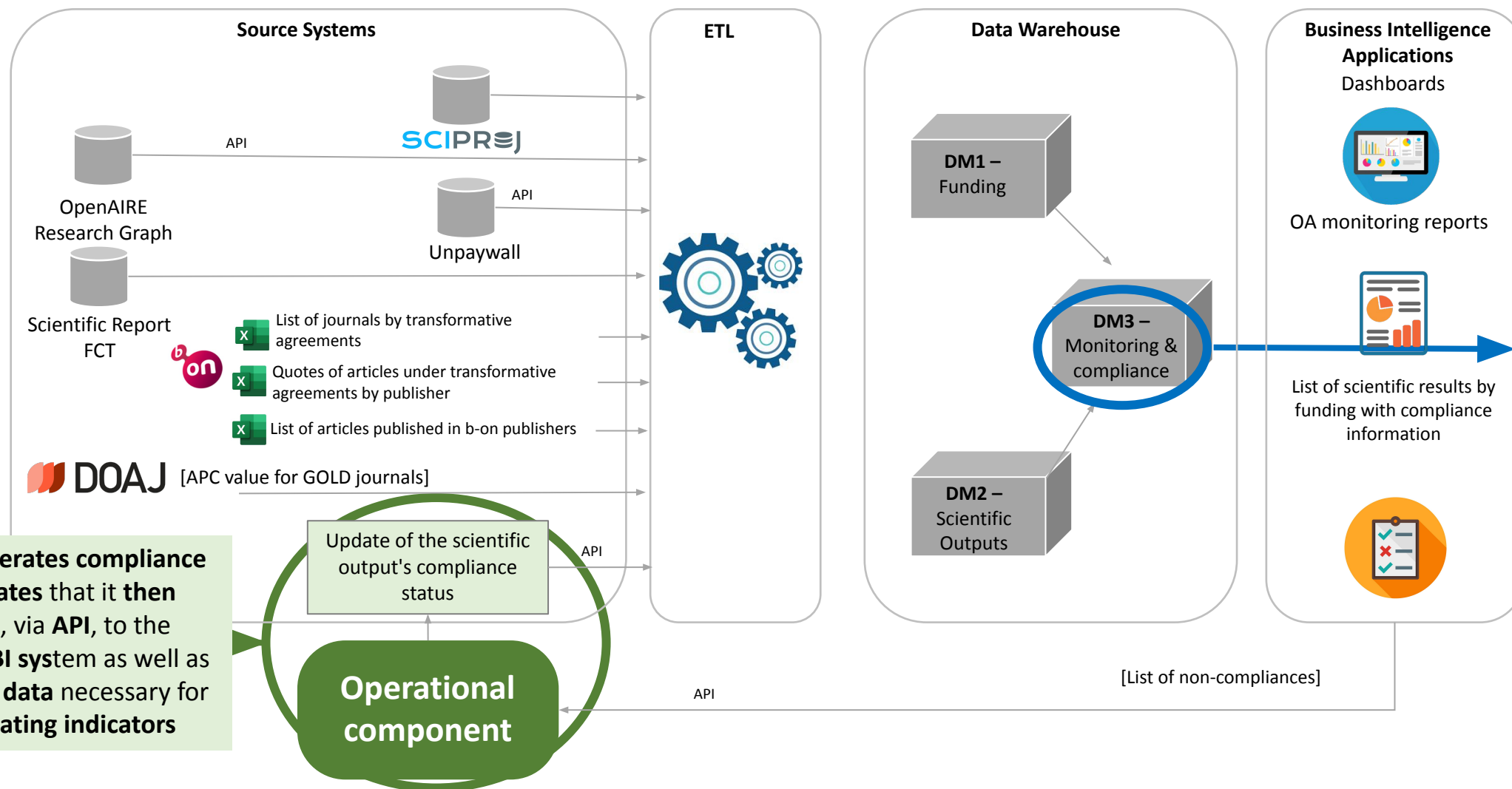
**Data Mart 2 –Scientific outputs □ Control of technical execution in terms of published outputs
(Management of scientific outputs)**

ANALYTICAL COMPONENT: DW/BI SYSTEM



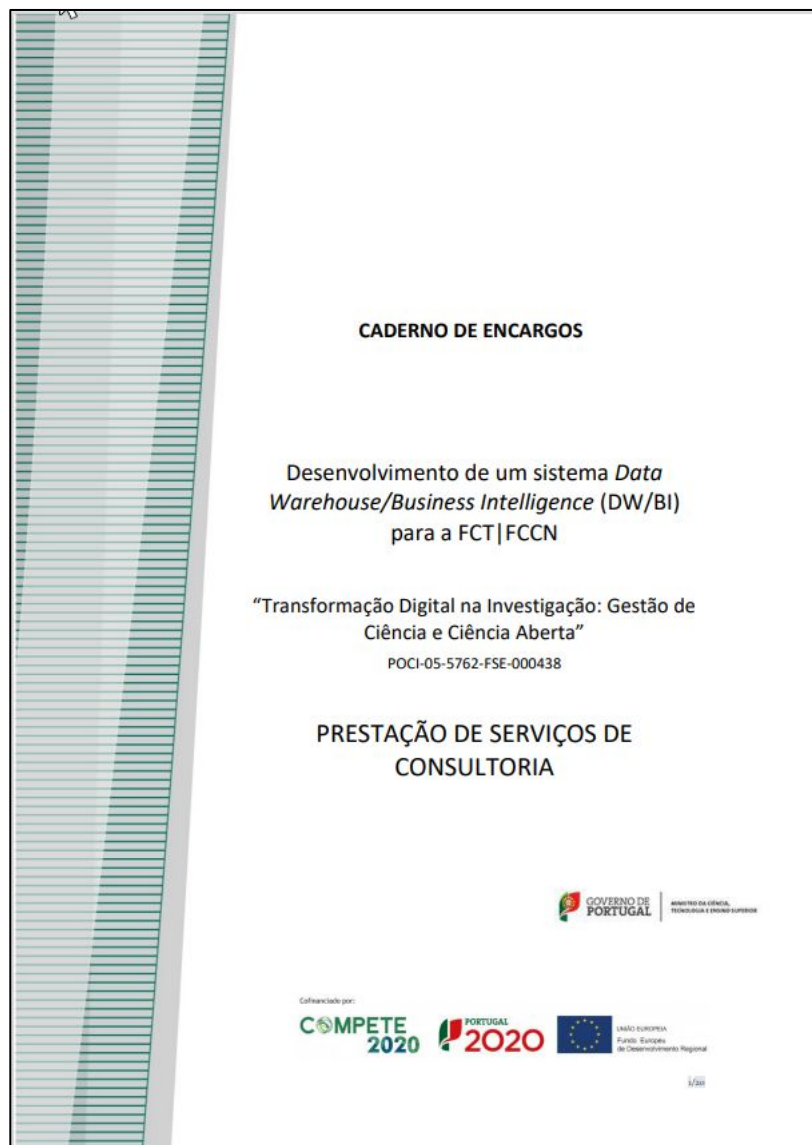
Data Mart 3 –Monitoring & Compliance □ Monitoring and compliance with FCT policies (including Plan-S)
Monitoring OA Trend and spending on APCs
Monitoring transformative agreements

SMC – MONITORING AND COMPLIANCE SYSTEM

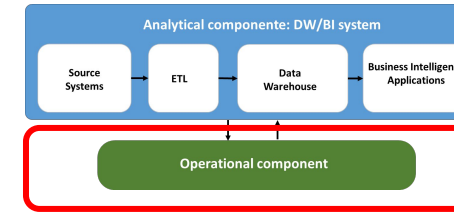


Stores results of the **calculation of compliance** of each scientific output within the scope of a funding (project) and under a policy that are then **sent via API to the M&C operating system**

It generates **compliance substates** that it then sends, via **API**, to the **DW/BI system** as well as other **data** necessary for calculating indicators



SMC FUNCTIONAL MODULES



Operational component

**Users
management**

Manage different types of users with different permissions associated to each one

Compliance

Provide a list of non-compliance scientific outputs as well as the detail of each one in order to know which are the non-compliant parameters

Notifications

Allow sending notifications associated with each scientific output and assigning it to different substates depending on the compliance cycle

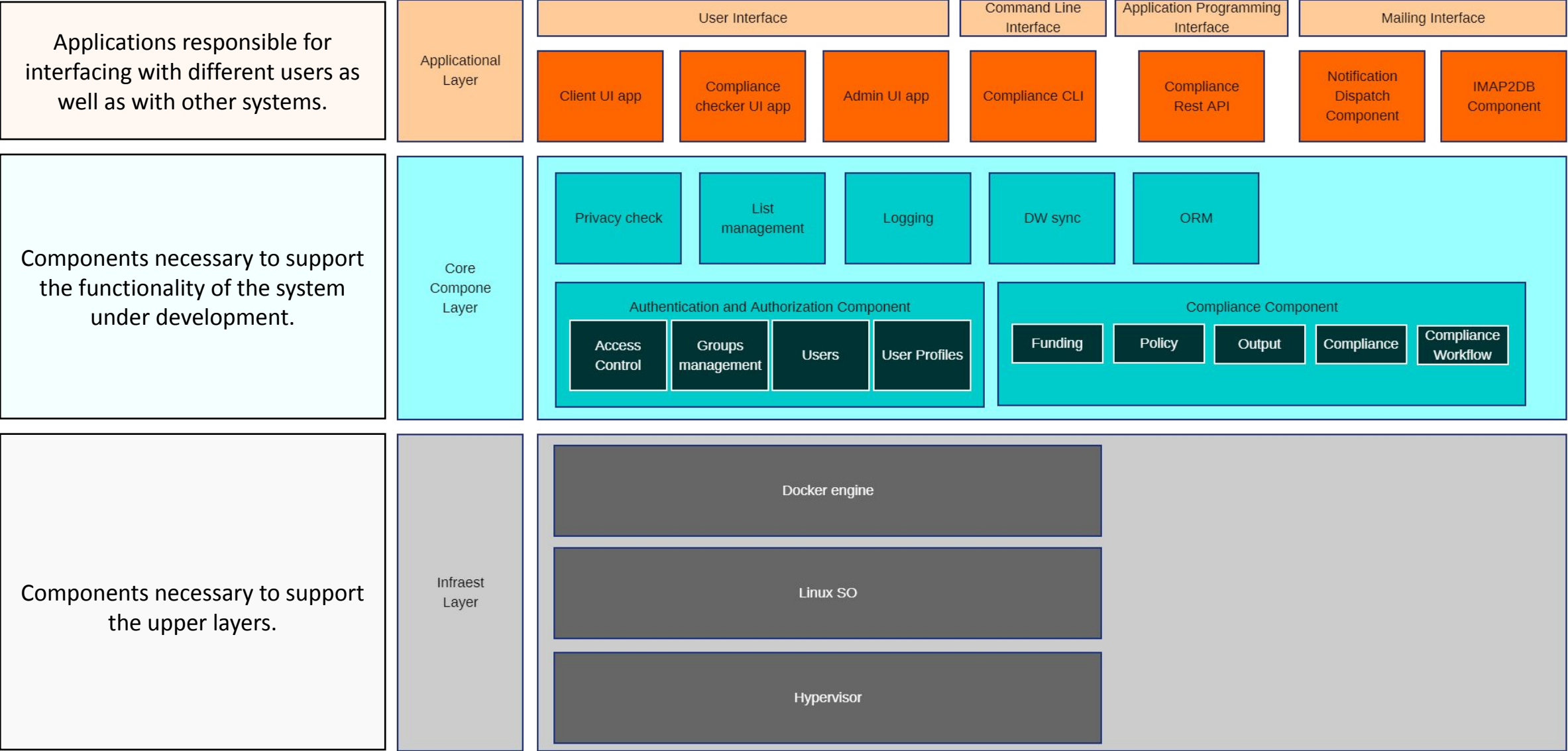
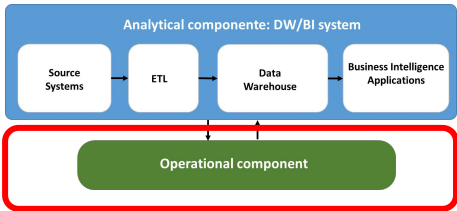
Storage

Storage of the information collected from the DW/BI system, as well as the generated information that will have to be sent to the DW/BI system

Indicators

Show indicators calculated in the DW/BI system relevant to monitoring and compliance (*"embedded"*)

SMC ARCHITECTURE



CONCLUSIONS

CONCLUSIONS

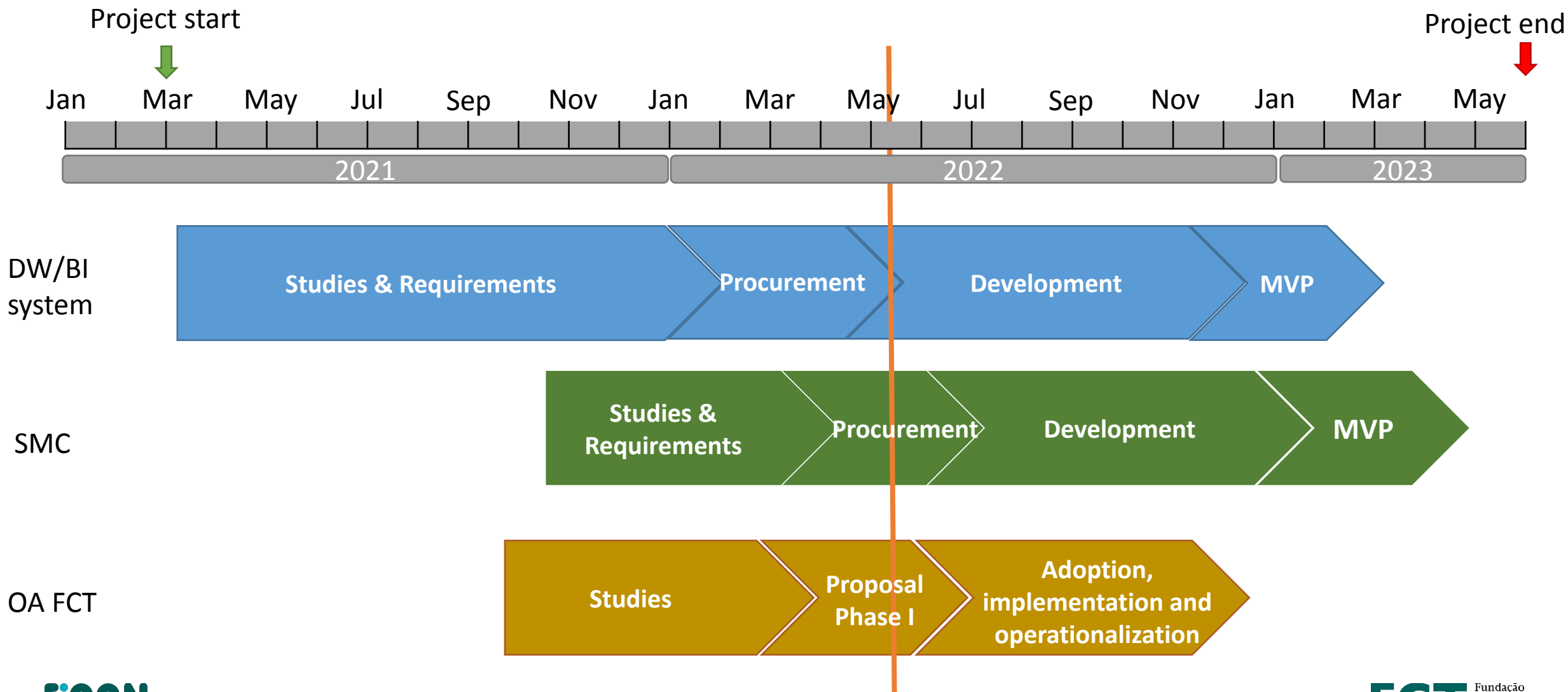


- The PTCRIS as well as the maturity of its infrastructures and services were fundamental to accelerate the development of the SMC
- The system design respects PTCRIS vision of reducing bureaucracy, I.e., deliver the mantra "introduce once, reuse multiple"
- The project is virtuous as it interoperates with European infrastructures (OpenAIRE) thus increasing the quality and completeness of national data



FUTURE WORK

TIMELINE





- Add functionalities (ex: automation of Scientific Reports)
- Extend scope to other policies (example: Policy on management and sharing of data)

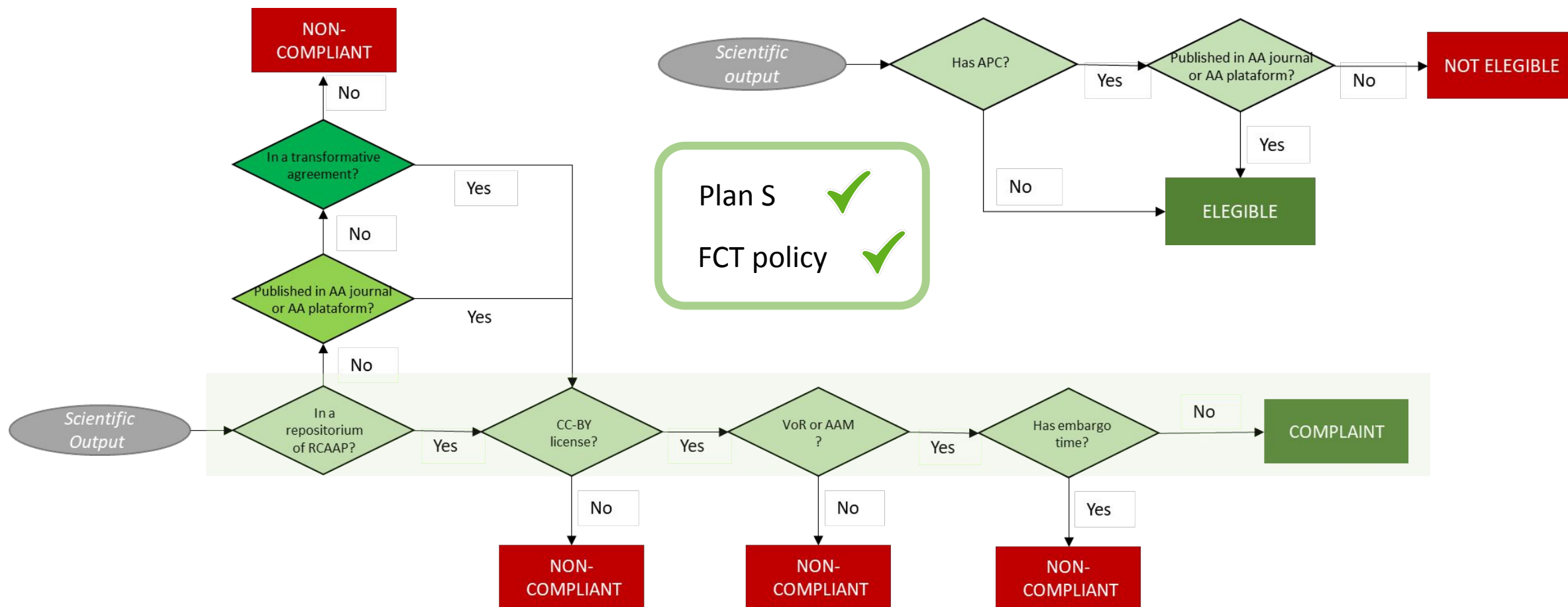
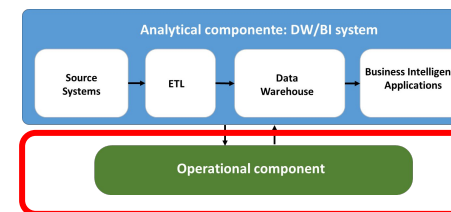


**THANK
YOU!**

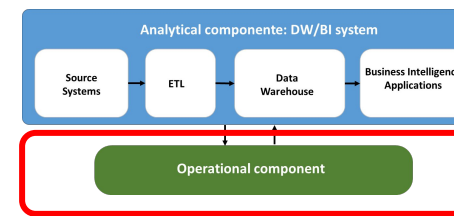
0.77038
2.99005
1.55039
1.00582
66085
0.77038
2.9900
1.55039

DM3 - COMPLIANCE WORKFLOW

HOW TO VERIFY?



SMC REQUIREMENTS



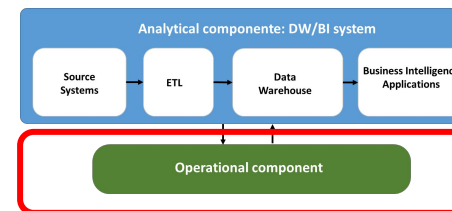
SMC

Non functional requirements

Functional requirements

Architecture

SMC REQUIREMENTS

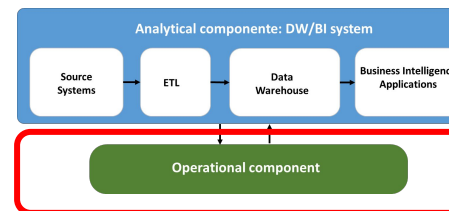


SMC

Non functional requirements

4. ... of auditability
5. ... of backups
6. ... of availability
7. ... of platform
8. ... of portability
9. ...about licenses and legislation
10. ... of response time
11. ... of documentation
12. ... of software
13. ... of operating system
14. ... of infrastructure
15. ... from data model
16. ... of internationalization

SMC REQUIREMENTS



SMC

Non functional requirements

Functional requirements

4. ... of the compliance check interface
5. ... of the Administration interface
6. ... of CLI
7. ... of the API
8. ... of notification
9. ... of IMAP2BD
10. ... of privacy
11. ... of user management
12. ... of access
13. ... of compliance management
14. ... sync with DW
15. ... of ORM