

The digitalization framework of the National Forest System at 2020

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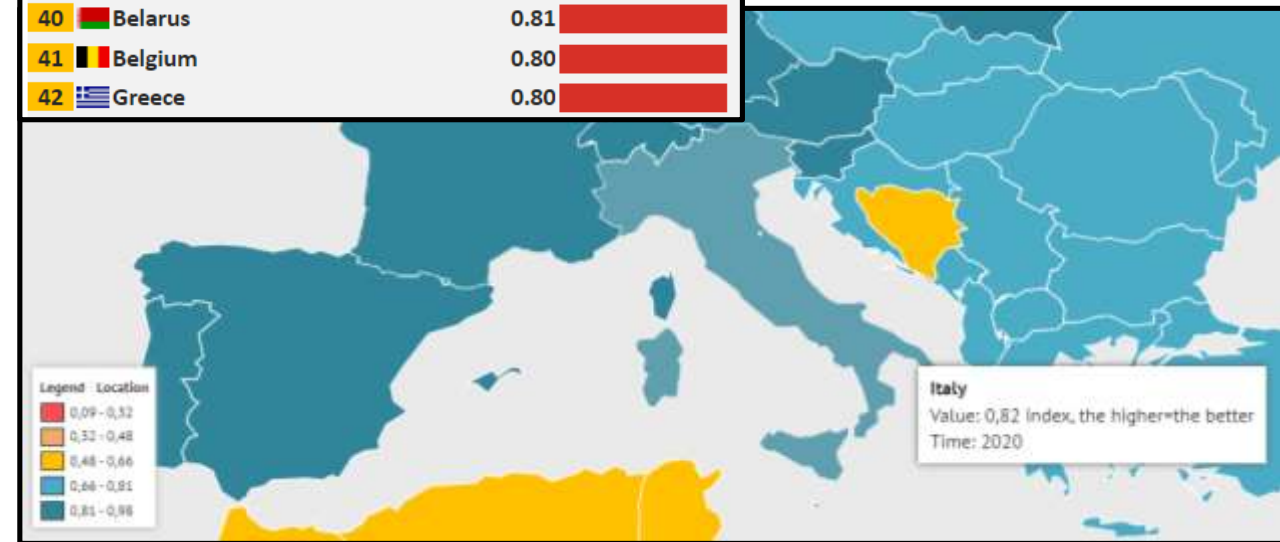
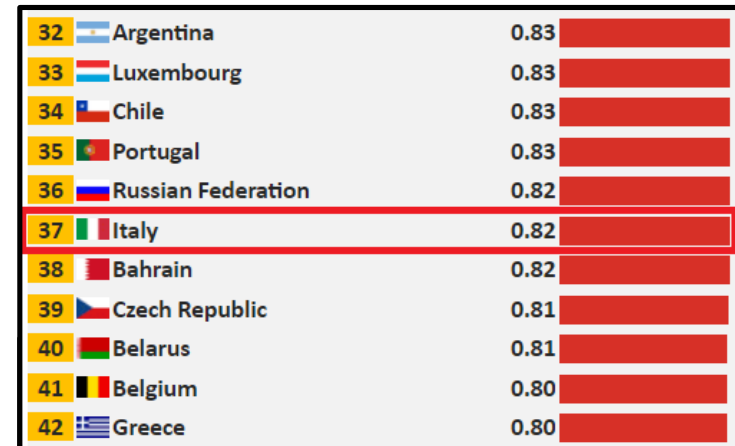
IECF
2022

The 3rd International Electronic Conference on Forests
Exploring New Discoveries and New Directions in Forests
15-31 OCTOBER 2022 | ONLINE



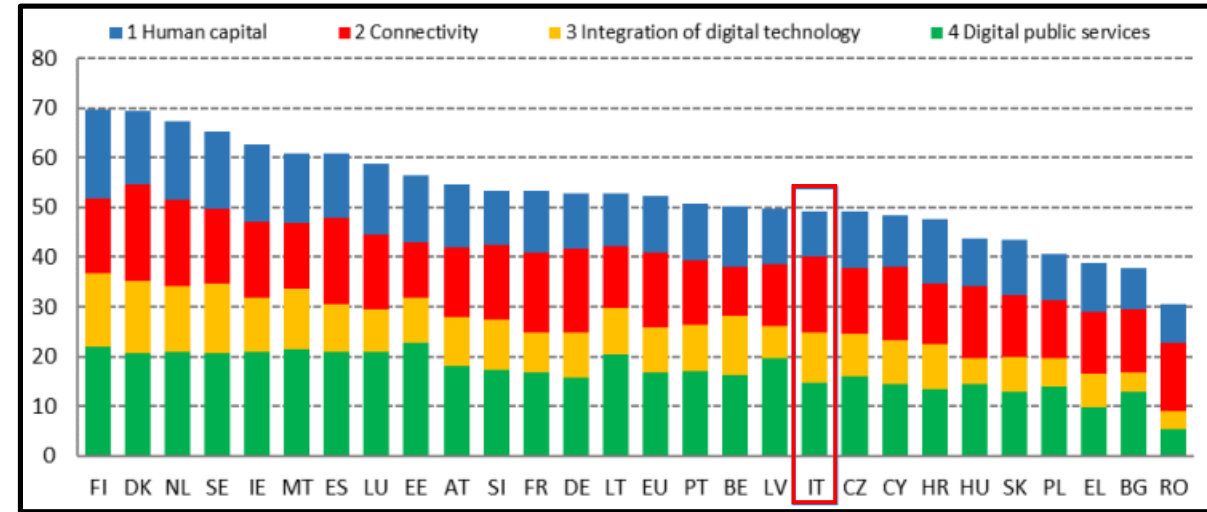
E-Government Development Index (EGDI)

- Rating class: 0,8231
- Position 37° - Class *Very High*

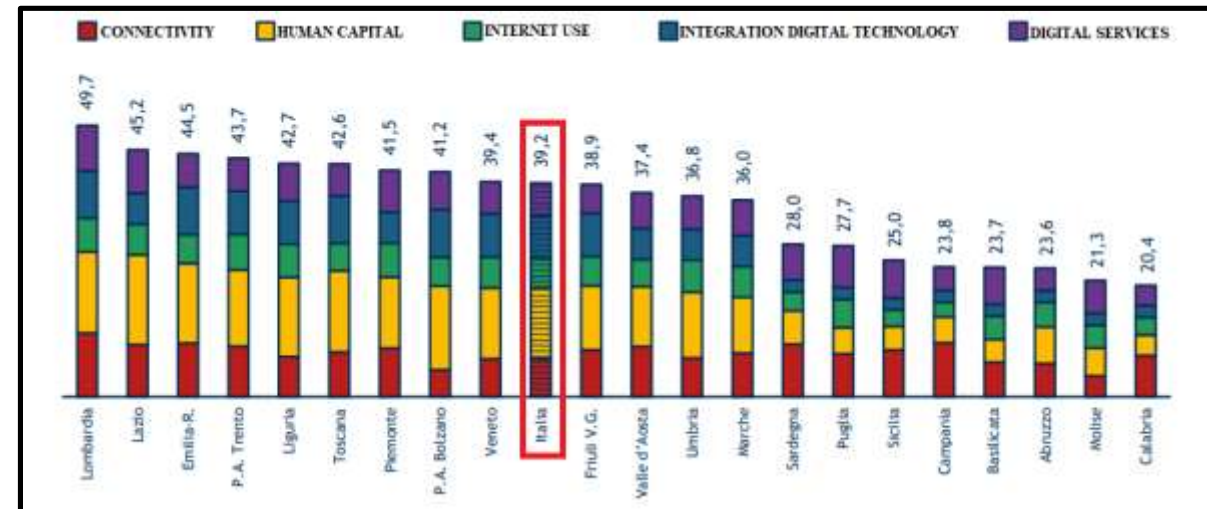


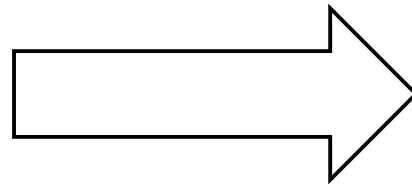
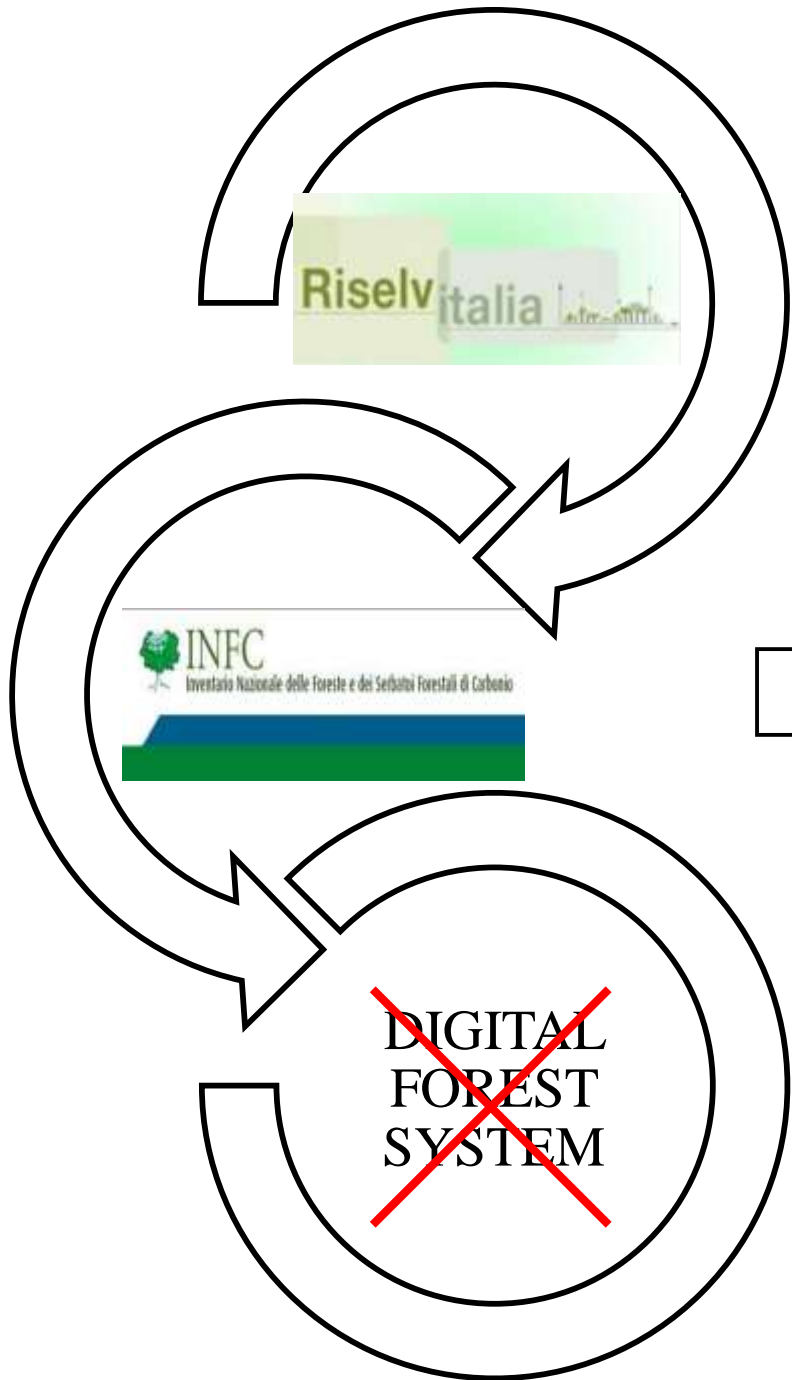
Digital Economy and Society Index (DESI)

- Score: 45,50
- Position 21°



DESI for Italian regions





DIGITALIZATION OF ITALIAN FORESTRY SECTOR

- Degree
- Level



WebSites



Comunication

- Forest Heritage
- Monumental Plants/Woods List
- Forest System
- Laws and Regulations
- Forest Administration Organization
- FAQ

Forestry administration

Links to Forest Offices

Access to Digital Forms

Access to Forest Cartography

Governance

Promotions of Initiatives to Support the Forestry Sector (RDP, LIFE, etc)

List of Forest Companies

Forest Statistics

Interviews



Modalities for Submit Projects/Plans

Data Management

Digital Forms

User Accreditation

Digital Signature of the Project

Digital Forestry Platforms

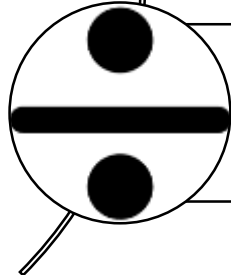
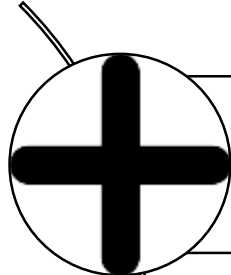
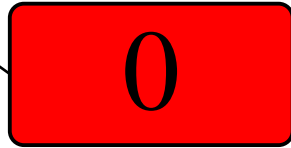
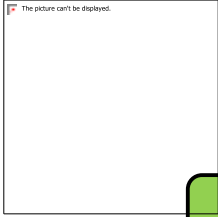
Objectives

Modality to upload Information

Accessibility to Cartography

Valorization of Information

Degrees

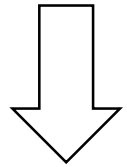


•PARTIAL ABSOLUTE DEGREE

•PARTIAL RELATIVE DEGREE

Regions / provinces	Communication						Forestry Administration			Governance		
	Forest Heritage	Monumental Plants List	Forestry System	Laws and Regulations	Forest Administration Organization	FAQ	Links to Forestry Offices	Access to Digital Forms	Access to Forest Cartography	Initiatives for Forestry Sector	List of Forest Companies	Forestry Statistics
VDA	1	0	1	1	1	0	0	1	1	1	1	0
PMT	1	1	1	1	1	1	1	1	1	1	1	1
LMB	1	1	1	1	1	1	1	1	1	1	1	0
TN	1	1	1	1	1	0	1	1	1	1	1	1
BZ	1	1	1	1	1	1	1	1	1	1	0	1
VEN	1	1	1	1	1	0	1	1	1	1	1	0
FVG	1	1	1	1	1	0	0	1	1	1	1	1
LGR	1	1	1	1	1	0	1	1	1	1	1	0
ERG	1	1	1	1	1	0	0	1	1	1	1	1
TSC	1	1	1	1	0	0	1	1	1	1	1	0
MRC	1	1	1	1	1	0	1	1	1	1	1	0
UMB	1	1	1	1	1	0	1	1	0	1	1	0
LAZ	1	1	1	1	1	1	1	1	1	1	1	0
ABR	1	0	1	1	0	0	1	1	1	1	0	0
MLS	1	0	1	1	1	0	1	1	1	1	0	0
CMP	1	1	1	1	1	0	1	1	0	1	1	0
PUG	1	1	1	1	1	0	1	1	0	1	0	0
BSL	1	1	1	1	1	0	1	1	0	1	1	1
CLB	1	1	1	1	1	0	1	1	1	1	1	0
SCL	1	1	1	1	1	0	0	1	1	1	0	0
SRD	1	1	1	1	1	0	1	1	0	1	0	0
Regions / Provinces	Instruments for Submit Projects/Plans			Digital Forms		Data Management		User Accreditation		Digital Signature of the Project		Digital Forestry Platforms
VDA	1			1		1		0		0		0
PMT	1			1		1		1		1		1
LMB	1			1		1		1		1		1
TN	1			1		1		0		1		0
BZ	1			1		1		0		1		0
VEN	1			1		1		1		1		1
FVG	1			1		1		1		1		1
LGR	0			1		1		0		0		0
ERG	1			1		1		1		1		1
TSC	1			1		1		0		0		1
MRC	0			1		1		0		0		0
UMB	1			1		1		0		1		0
LAZ	1			1		1		0		1		0
ABR	0			1		1		0		0		0
MLS	0			1		1		0		0		0
CMP	1			1		1		0		0		0
PUG	0			1		1		0		0		0
BSL	0			1		1		0		0		0
CLB	0			1		1		0		0		0
SCL	0			1		1		0		0		0

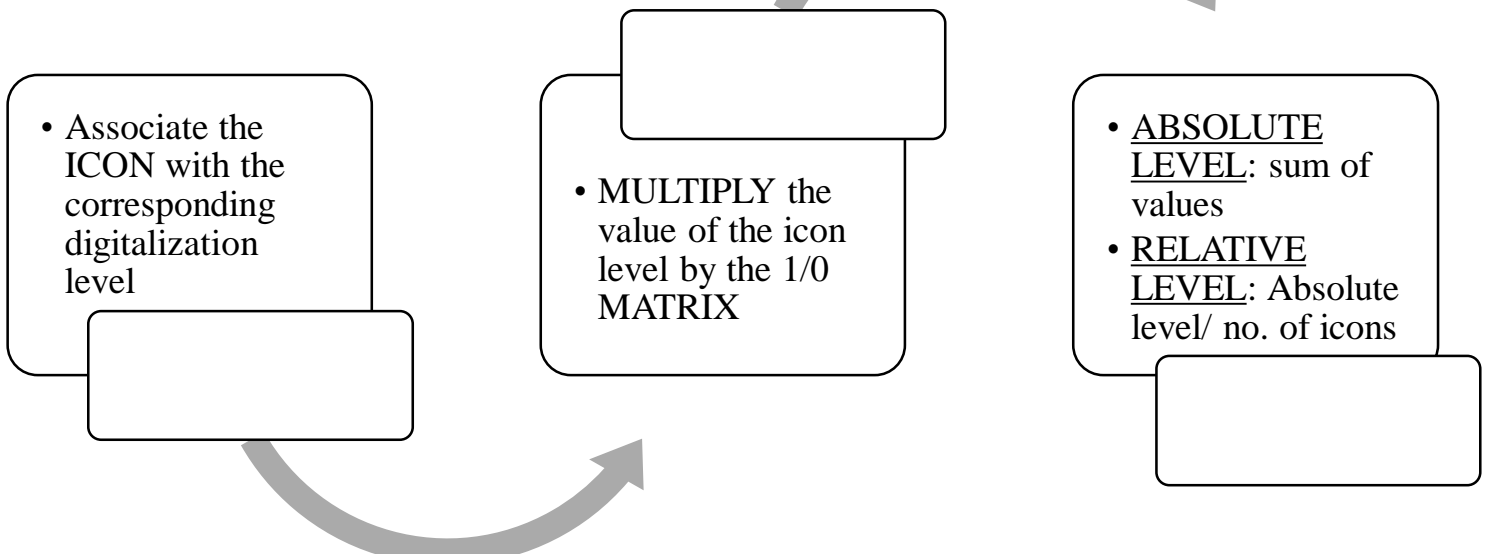
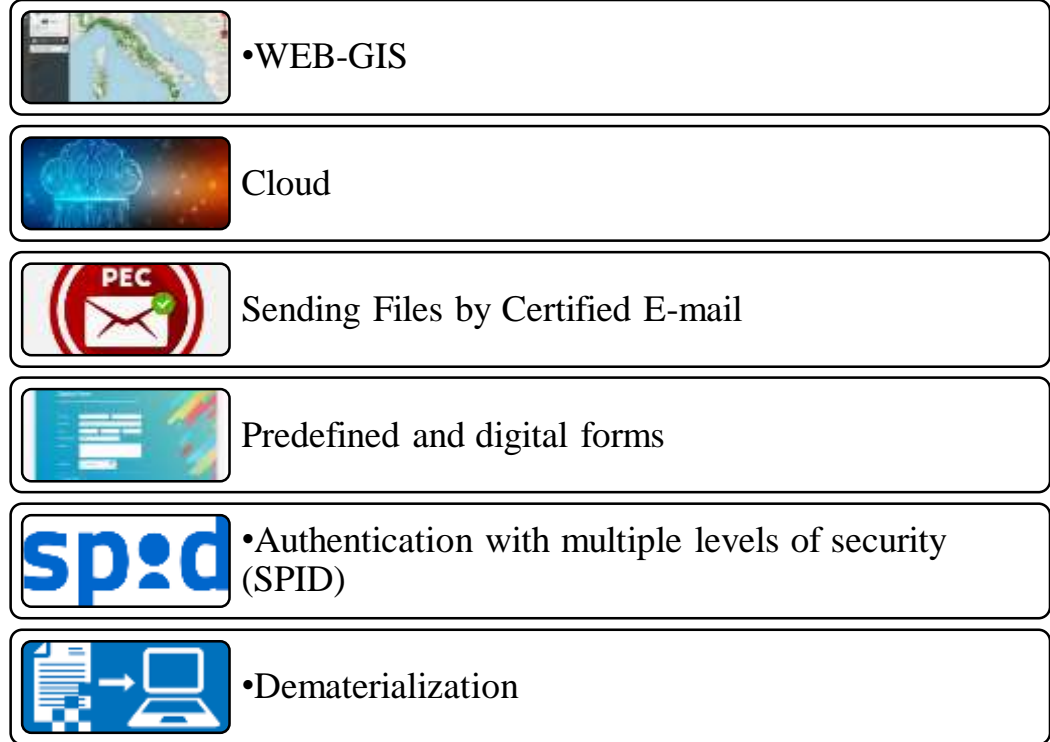
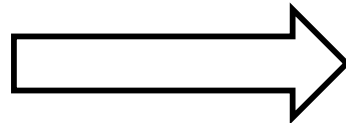
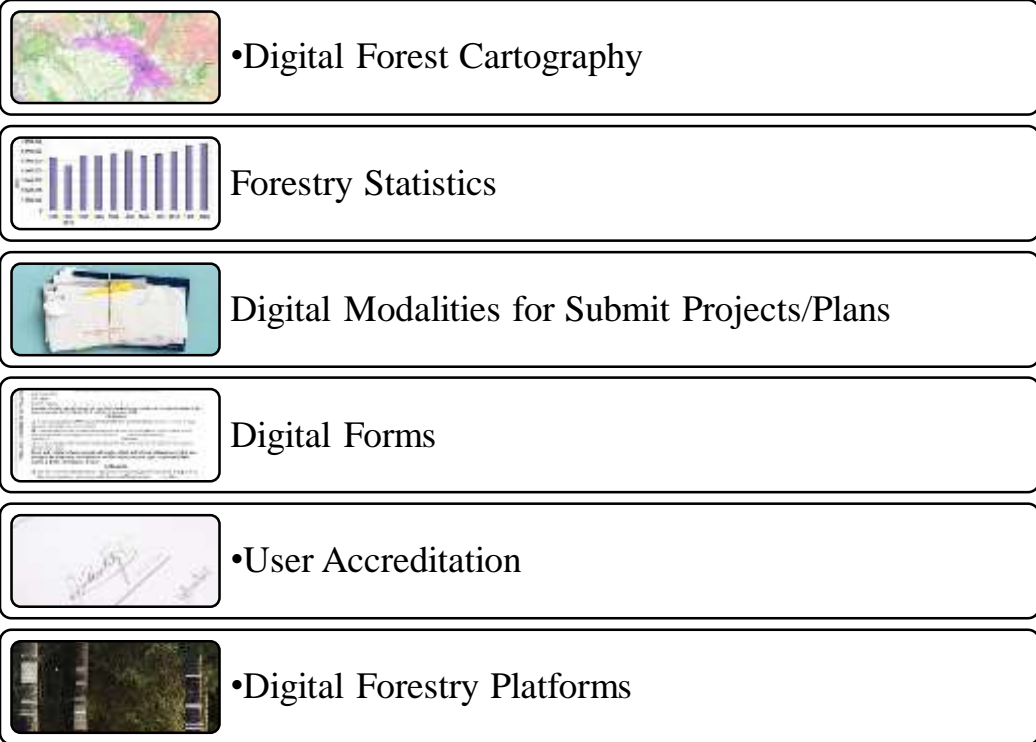
Levels



- Informatization
- Digitalization

- 3 Categories
- 11 Sub-Categories

Categories	Sub-categories	Informatization			Digitalization		
		0	1	2	3	4	5
General Profiles	Instrumental Equipment	IBM PC/Commodore 64	Computer, Inkjet Printer, Fax	Networked Computer, Multifunction Printer	Networked Computer, Multifunction Printer	Networked Computer, Multifunction Printer	Networked Computer, Multifunction Printer
	Telematic Infrastructures	Not Available	Analogue Mobile Telephony	Digital Telephony	ADSL; 3G	Wi-fi; 4G	5G
	Data / Document Storage	Paper	Floppy disk	CD/DVD	USB; hard disk drives	Cloud	Shared Cloud
	Communication	Mail	E-mail	E-mail	E-mail + Certified E-mail	E-mail + Certified E-mail	E-mail + Certified E-mail
	Document Tracking	Protocol	Paper Administrative Protocol	Computerized Administrative Protocol	Digital Protocol	Digital Protocol	Digital Protocol
	User Accreditation	Document	Photocopy of Document	Username + Password	Authentication	Authentication with Basic Levels of Security	Authentication with multiple levels of security (SPID)
Public Administration Profiles	Formal Communication	Mail	Mail	Mail	Certified E-mail	Certified E-mail	Certified E-mail
	Document Format	Paper	Paper	Paper	Dematerialization	Dematerialization	Dematerialization
	Forms	Paper Form	Guidance Paper Form	Downloadable and Fillable Paper Form	Downloadable and Fillable Paper Form	Predefined and digital forms	Predefined and digital forms
Professional Profiles	Cartographies	Trace on Transparent Sheets	Photocopies	GIS	WEB-GIS	WEB-GIS	WEB-GIS with Open Source Software
	Submission of Professional Works	Mail	Mail	E-mail + Certified E-mail	Sending Files by Certified E-mail	Sending Files by Certified E-mail	Processing on a Digital Platform

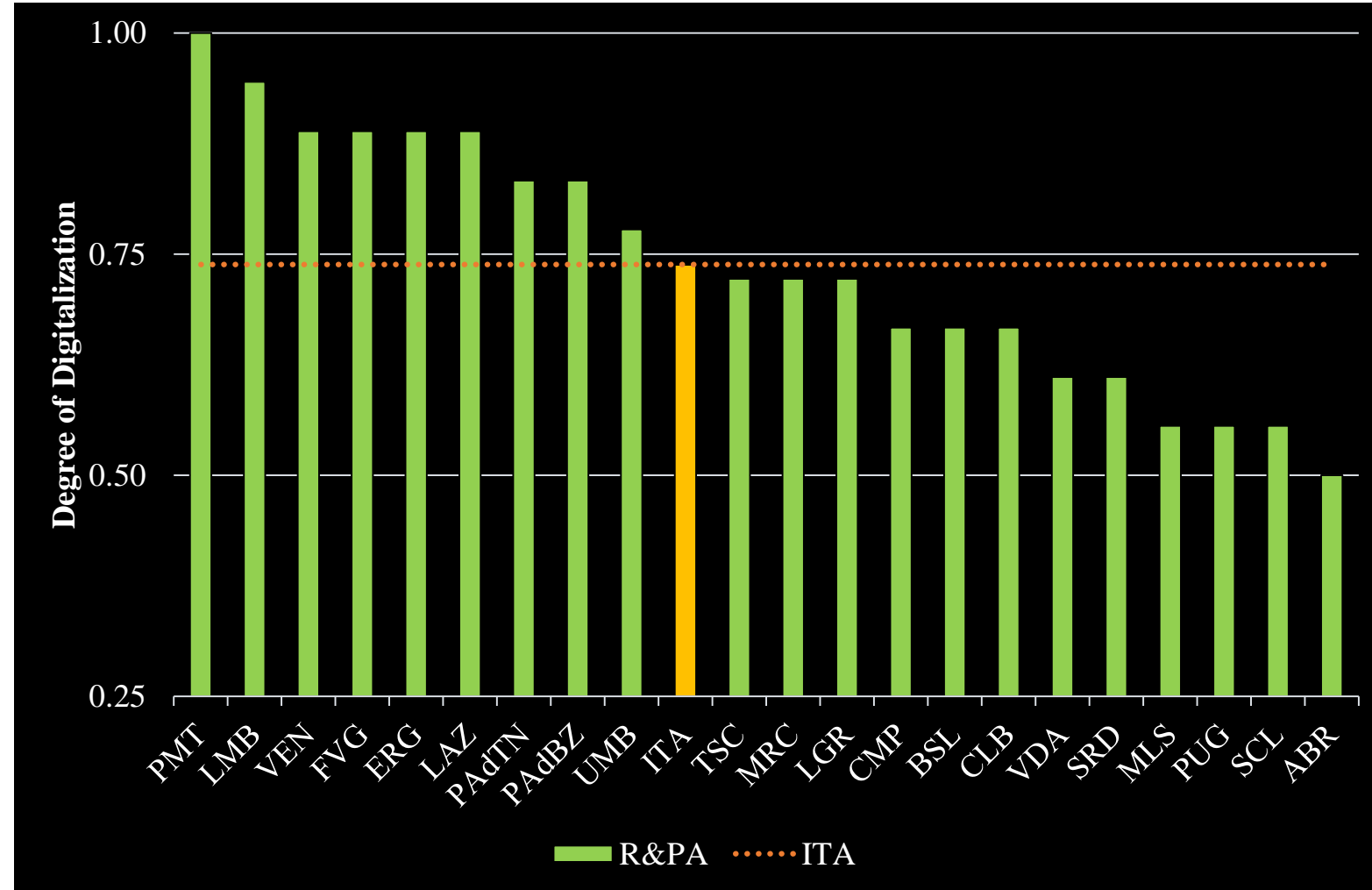


Regions / Provinces	Comunication		Forestry Administration		Governance		Partial Degree	
	Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative
VDA	4,00	0,67	2,00	0,67	2,00	0,67	8,00	0,67
PMT	6,00	1,00	3,00	1,00	3,00	1,00	12,00	1,00
LMB	6,00	1,00	3,00	1,00	2,00	0,67	11,00	0,92
PAdTN	5,00	0,83	3,00	1,00	3,00	1,00	11,00	0,92
PAdBZ	6,00	1,00	3,00	1,00	2,00	0,67	11,00	0,92
VEN	5,00	0,83	3,00	1,00	2,00	0,67	10,00	0,83
FVG	5,00	0,83	2,00	0,67	3,00	1,00	10,00	0,83
LGR	5,00	0,83	3,00	1,00	2,00	0,67	10,00	0,83
ERG	5,00	0,83	2,00	0,67	3,00	1,00	10,00	0,83
TSC	4,00	0,67	3,00	1,00	2,00	0,67	9,00	0,75
MRC	5,00	0,83	3,00	1,00	2,00	0,67	10,00	0,83
UMB	5,00	0,83	2,00	0,67	2,00	0,67	9,00	0,75
LAZ	6,00	1,00	3,00	1,00	2,00	0,67	11,00	0,92
ABR	3,00	0,50	3,00	1,00	1,00	0,33	7,00	0,58
MLS	4,00	0,67	3,00	1,00	1,00	0,33	8,00	0,67
CMP	5,00	0,83	2,00	0,67	2,00	0,67	9,00	0,75
PUG	5,00	0,83	2,00	0,67	1,00	0,33	8,00	0,67
BSL	5,00	0,83	2,00	0,67	3,00	1,00	10,00	0,83
CLB	5,00	0,83	3,00	1,00	2,00	0,67	10,00	0,83
SCL	5,00	0,83	2,00	0,67	1,00	0,33	8,00	0,67
SRD	5,00	0,83	2,00	0,67	1,00	0,33	8,00	0,67
ITA	4,95	0,83	2,57	0,86	2,00	0,67	9,52	0,79

Regions / Provinces	Partial Degree	
	Absolute	Relative
VDA	3,00	0,50
PMT	6,00	1,00
LMB	6,00	1,00
PAdTN	4,00	0,67
PAdBZ	4,00	0,67
VEN	6,00	1,00
FVG	6,00	1,00
LGR	3,00	0,50
ERG	6,00	1,00
TSC	4,00	0,67
MRC	3,00	0,50
UMB	5,00	0,83
LAZ	5,00	0,83
ABR	2,00	0,33
MLS	2,00	0,33
CMP	3,00	0,50
PUG	2,00	0,33
BSL	2,00	0,33
CLB	2,00	0,33
SCL	2,00	0,33
SRD	3,00	0,50
ITA	3,76	0,63

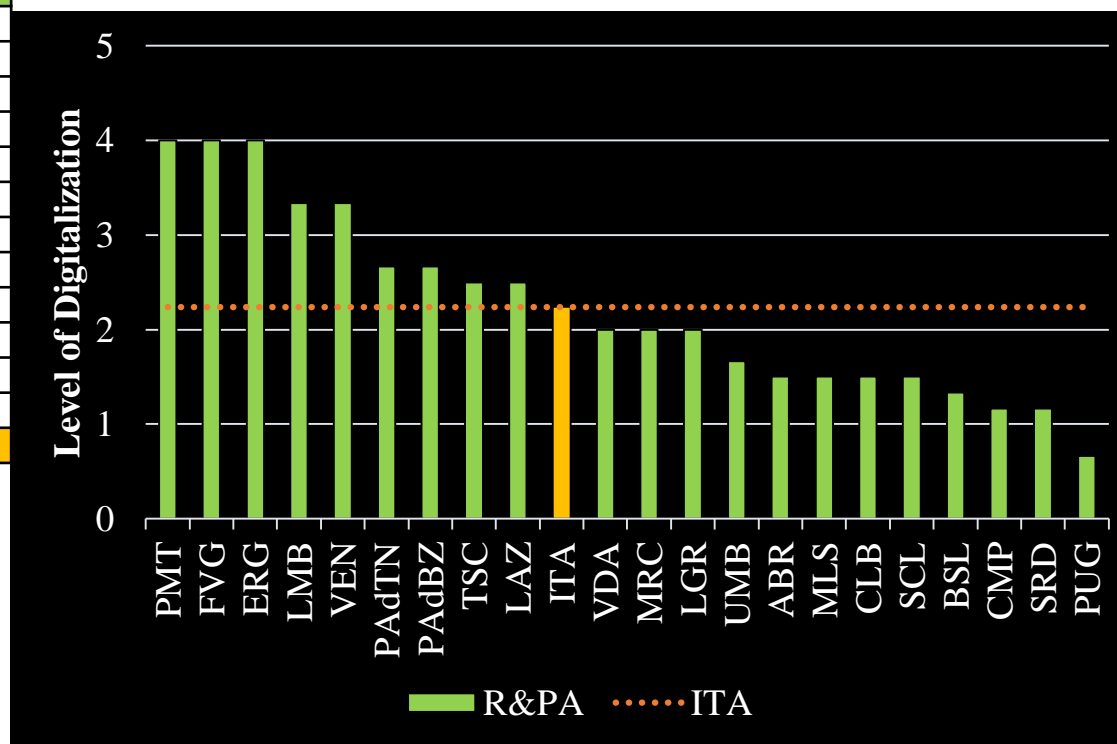
Degrees

Regions / Provinces	Degree	
	Absolute	Relative
VDA	11,00	0,61
PMT	18,00	1,00
LMB	17,00	0,94
PAAdTN	15,00	0,83
PAAdBZ	15,00	0,83
VEN	16,00	0,89
FVG	16,00	0,89
LGR	13,00	0,72
ERG	16,00	0,89
TSC	13,00	0,72
MRC	13,00	0,72
UMB	14,00	0,78
LAZ	16,00	0,89
ABR	9,00	0,50
MLS	10,00	0,56
CMP	12,00	0,67
PUG	10,00	0,56
BSL	12,00	0,67
CLB	12,00	0,67
SCL	10,00	0,56
SRD	11,00	0,61
ITA	13,29	0,74



Levels

	Digital Icons of Functions and Services							
	Sending Files by Certified E-mail	Predefined and digital forms	Authentication with levels of security (SPID)	Dematerialization	WEB-GIS	Cloud		
	3	4	5	3	5	4		
Regions / Provinces	Modalities for Submit Projects/Plans	Digital Forms	User Accreditation	Digital Forestry Platforms	Digital Forest Cartography	Forestry Statistics	Levels	
							Absolute	Relatives
VDA	3,00	4,00	0,00	0,00	5,00	0,00	12,00	2,00
PMT	3,00	4,00	5,00	3,00	5,00	4,00	24,00	4,00
LMB	3,00	4,00	5,00	3,00	5,00	0,00	20,00	3,33
TN	3,00	4,00	0,00	0,00	5,00	4,00	16,00	2,67
BZ	3,00	4,00	0,00	0,00	5,00	4,00	16,00	2,67
VEN	3,00	4,00	5,00	3,00	5,00	0,00	20,00	3,33
FVG	3,00	4,00	5,00	3,00	5,00	4,00	24,00	4,00
LGR	0,00	4,00	0,00	0,00	5,00	0,00	9,00	1,50
ERG	3,00	4,00	5,00	3,00	5,00	4,00	24,00	4,00
TSC	3,00	4,00	0,00	3,00	5,00	0,00	15,00	2,50
MRC	0,00	4,00	0,00	3,00	5,00	0,00	12,00	2,00
UMB	3,00	4,00	0,00	3,00	0,00	0,00	10,00	1,67
LAZ	3,00	4,00	0,00	3,00	5,00	0,00	15,00	2,50
ABR	0,00	4,00	0,00	0,00	5,00	0,00	9,00	1,50
MLS	0,00	4,00	0,00	0,00	5,00	0,00	9,00	1,50
CMP	3,00	4,00	0,00	0,00	0,00	0,00	7,00	1,17
PUG	0,00	4,00	0,00	0,00	0,00	0,00	4,00	0,67
BSL	0,00	4,00	0,00	0,00	0,00	4,00	8,00	1,33
CLB	0,00	4,00	0,00	0,00	5,00	0,00	9,00	1,50
SCL	0,00	4,00	0,00	0,00	5,00	0,00	9,00	1,50
SRD	0,00	4,00	0,00	0,00	0,00	0,00	4,00	0,67
ITA	1,71	4,00	1,19	1,29	3,81	1,14	13,14	2,19



WEBSITES



- SERVICES IN COMMON TO ALL R&PAS:
 - ⑩ Legislative-regulatory framework
 - ⑩ Access to forms
 - ⑩ Initiatives to support the forestry system
- FORESTRY STATISTICS IN ONLY 6 REGIONS
- FEW REGIONS WITH SERVICES FOR FOREST ADMINISTRATION AND GOVERNANCE
- THE R&PAS WITH FORESTRY TRADITION
 - ⑩ update, articulated and overall content rich pages (photos, videos, texts, boxes, etc.), with a clear location on the site map
- THE CENTRAL AND SOUTHERN REGIONS
 - ⑩ Basic – outdated - poor Websites.
 - ⑩ Websites with other topics (environment being the most common)
 - ⑩ Accessing to the pages is rather difficult and time-consuming
- DEGREE OF DIGITALIZATION BETWEEN 1.00 AND 0.58
 - ⑩ Piedmont → 1.00 Ability to provide efficient services on all topics
 - ⑩ Abruzzo → 0.58 Gaps in communication and forest governance



INTERVIEWS



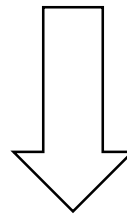
- TWO CRITICAL ISSUES AFFECTING THE RESULTS
 - ⑩ Describe the current situation rather than the situation in 2020
 - ⑩ Inability to distinguish between computerization and digitalization
- ↓
- ⑩ Form downloaded from the site → filling it in manually → submitting it as a .pdf with holographic signature / sending on paper by PEC
- ⑩ “DIGITALIZATION”
- TRANSITIONAL PERIOD
 - ⑩ Integration of digital tools
 - ⑩ Context of computerization
 - ⑩ Collection of data and its transfer to the digital platform

NEW METHODOLOGY

EGDI/DESI + FORESTRY ICON



OVERESTIMATION THE REAL DIGITALIZATION OF THE NATIONAL FORESTRY SYSTEM



- ICONIC TOOLS - DIGITAL TOOLS
- ICONIC TOOLS AND THE LEVEL OF DIGITALIZATION
- MORE ICONIC TOOLS AND DIGITALIZED ACTIVITIES



LOW LEVEL OF DIGITALIZATION IN THE FORESTRY SECTOR

1. MORE REGIONS BELOW DEGREE AVERAGE
 2. LEVEL OF NATIONAL FORESTRY DIGITALIZATION SYSTEM: 2.24
 3. NO R&PA REACHES LEVEL 5
- CONSERVATIVE CHARACTER OF THE OPERATORS
 - EXCLUSIVE COMPETENCE OF R&PA IN FOREST MANAGEMENT
 - MULTIFUNCTIONALITY → INSTITUTIONAL SUPERSTRUCTURE

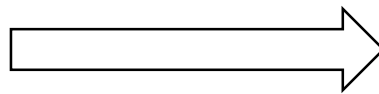
OBJECTIVES TO ACHIEVE



1. FULL COMPUTERIZATION
2. LEVEL 5



WILL BE ACHIEVED
WHEN ALL R&PAS
WORKS TOGETHER

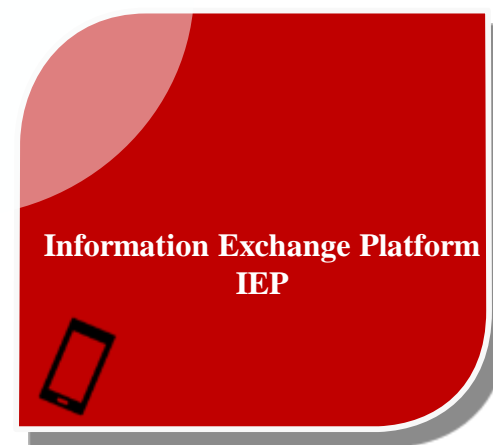


THE SHARED CLOUD

- 5TH LEVEL DIGITAL TOOL



DIGITAL SYSTEM FOREST



- **Forest Management Platform (FMP)**, targeted at PA's, forestry professionals, enforcement agencies, and citizens;
- **The Earth observation platform (EOP)**, specifically addressed to PA's and designed to be complementary instrument of the FMP;
- **Information Exchange platform (IEP)**, to support with a mobile app the field surveys and the information exchange between citizens, NGOs, law enforcement and PA's;
- **Platform support governance (PSG)**, to provide aggregated forest statistics to Regions, MIPAAF, MATTM, ISTAT.