



TEAM PER LA  
TRASFORMAZIONE  
DIGITALE



# Italian National Digital Data Platform

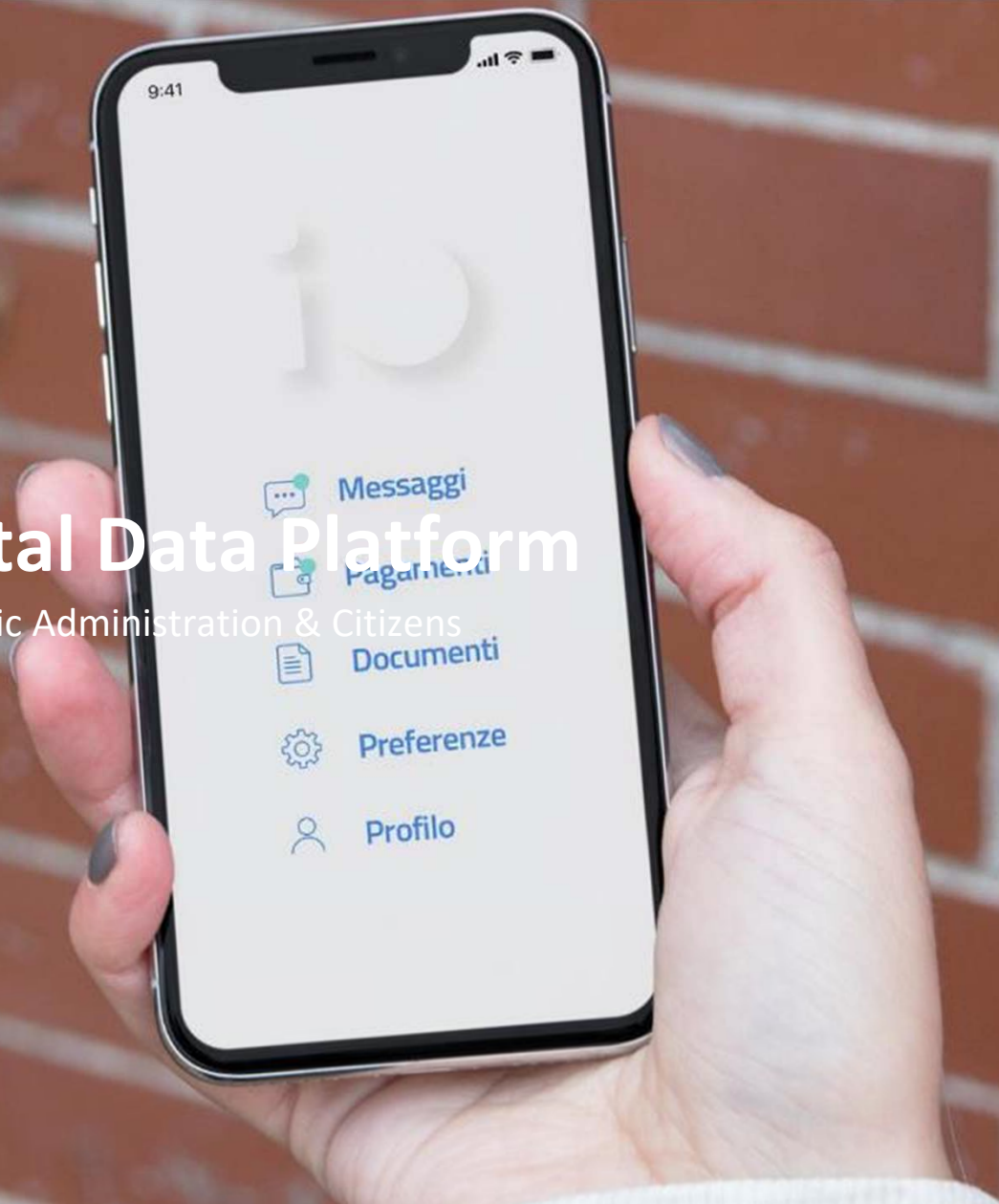
The Data & Analytics Framework for Public Administration & Citizens

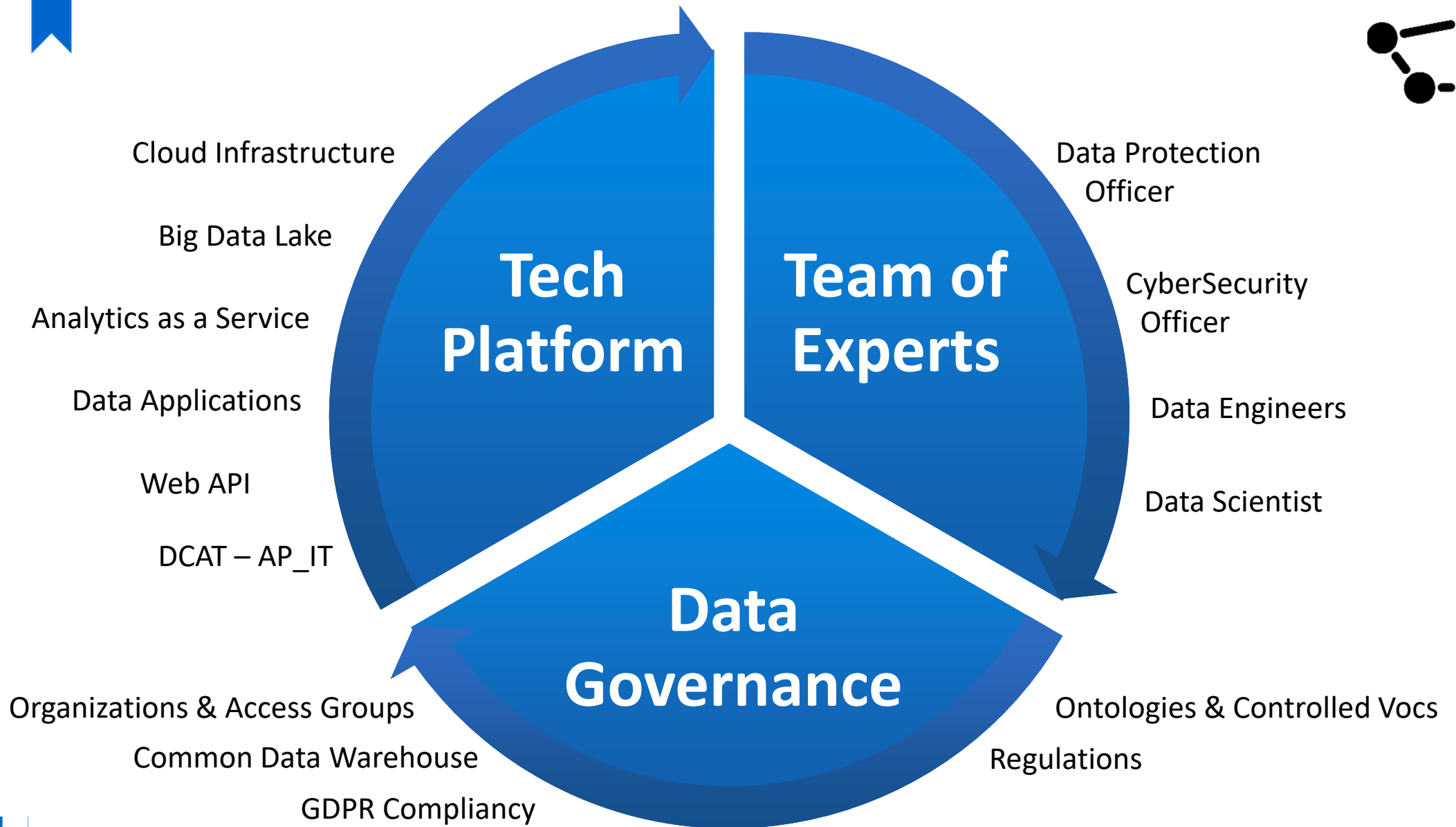
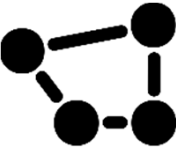
**SIMONE PIUNNO**

Chief Technical Officer

**ANDREA CARLINI**

Chief Data Product Manager







## Problem Addressed - Milestones

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- **Compliance**

Models and Tools to simplify the publication and sharing of Data in Compliance with Security and Data Protection Regulations ( GDPR )

- **Interoperability**

Central data collection and distribution, breaking data silos

- **Democratization**

Easy self service access to open data for everyone

- **Standardization**

Catalogs, Ontologies, Metadata and Data quality and validation

- **Valorization**

Provide Policy makers with data driven decision tools and models

- **Engagement**

Communities of Developers and Citizens, civic tech, Data Journalism



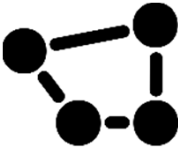
## Regulations in support to PDND

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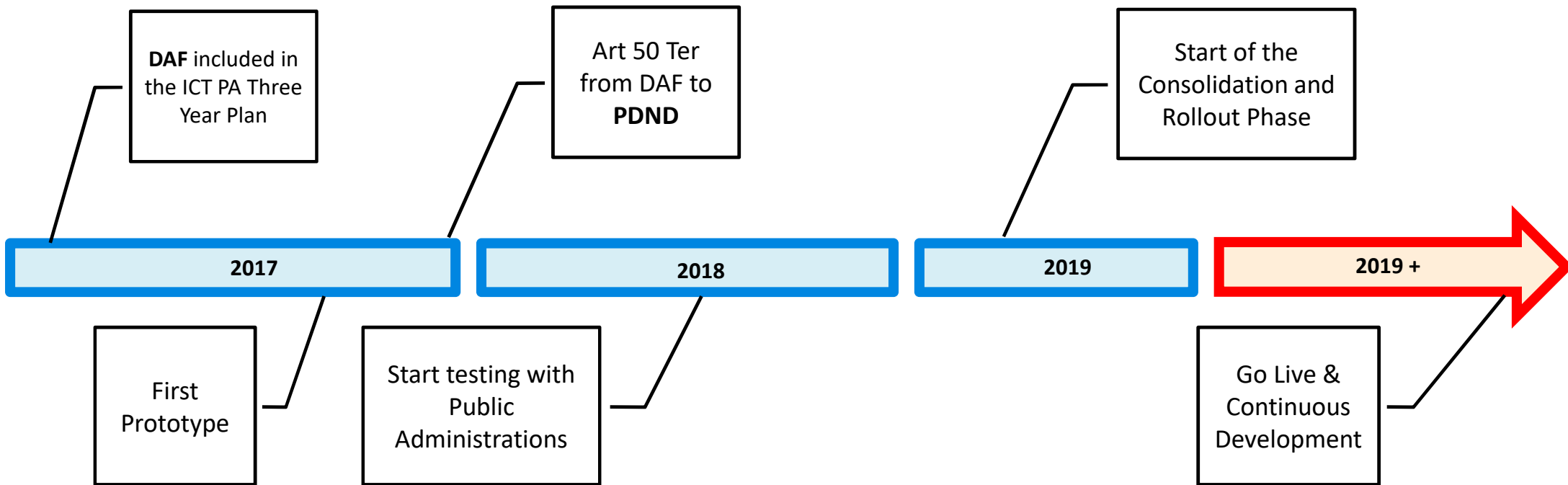


### **CAD ( Code for Digital Administration ) article 50-ter**

Introduces the **Piattaforma Digitale Nazionale Dati** ( *National Digital Data Platform* ) and the mandatory provisioning for strategic data sets.



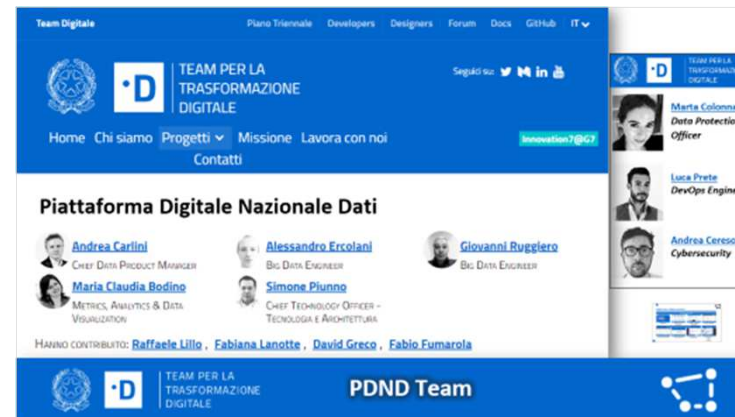
# History and Roadmap





## PDND e SaaS : PDND as a Service

**PDND** adopts the application software distribution model as a Service ( **SaaS** ). The **Digital Transformation Team** is responsible for its **maintenance, support and development**. This simplify the duties a Public Administration must follow, in the management and sharing of **Public Data** , to make them “**good**” and “**valuable**” **Data**.

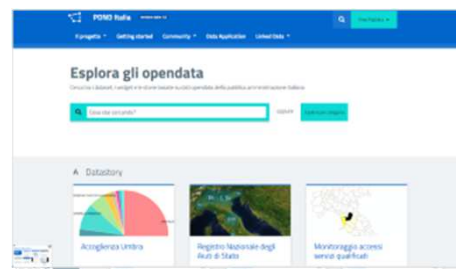




# PDND e SaaS : PDND as a Service



Technology & Services



Data Lake & Data Hub

Private front-end

Public front-end

CKAN

Developers, Designers, Docs Communities

Technology

Open Source

Docs

Forum - Slack

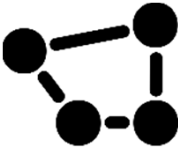
Linked data





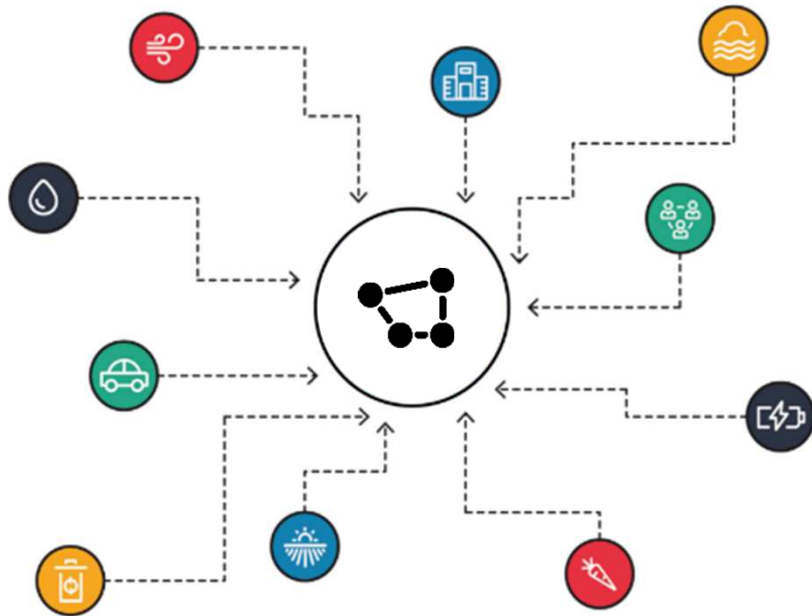
# Case Studies





## PDND as Data Hub

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### Problem Addressed

Complexity in the acquisition and redistribution of Data, in conformity with Data Protection and Security Regulations (GDPR)

PDND is a secure and standardized framework for the acquisition, control and redistribution of data. It uses a Catalog and Ontology Service, and segregates Data into Organizations, Roles and Access Groups

### Example

The Anti-Corruption Authority ( ANAC ) must collect data related to tenders from many public administrations. After normalizing and filtering them, it must share the results with many other public administrations



# OpenData as-a-service



## Problem Addressed

Open Data platform as a service  
Branded version of the PDND

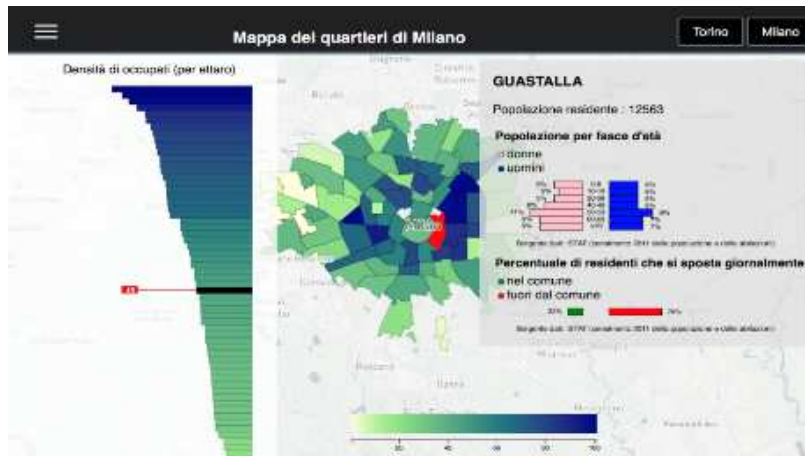
DCAT\_AP-IT by default

## Example

The Municipality of Turin has configured the PDND DataPortal to appear as their “Open Data Portal”, where all searches retrieves only results from their DataSets



# Analytics as-a-service



SuperSet Dashboards & Data Applications

## Problem Addressed

PAs needs to aggregate and analyze their data and create Dashboards to support their decision making processes.

it is provided as a simple but effective set of software for data aggregation and exploration

## Example

City of Milan: through the creation of a data application showing geographical maps with various key performance indicators, aimed to support the planning of investments in the territory



# Data stories / Storytelling



## Registro Nazionale degli Aiuti di Stato

Azienda ministeriale  
Dipartimento di Economia  
8 Ottobre 2018

Analisi esplorativa sulla distribuzione degli aiuti contenuti nel "Registro Aiuti di Stato" (dati relativi all'anno 2017)



### Registro Nazionale Aiuti di Stato

Il portale dal 12 agosto 2017 è stato introdotto il Registro Nazionale Aiuti di Stato.

Il Registro Nazionale Aiuti di Stato è il primo strumento informatizzato attivato da un Paese membro per il controllo e la pubblicità degli aiuti di Stato. Il Registro permette di verificare che le agevolazioni pubbliche siano concesse nel rispetto delle disposizioni previste dalla normativa comunitaria, sposta al fine di evitare il

## Problem Addressed

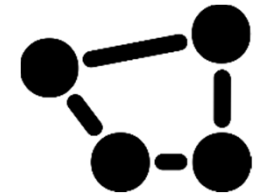
Public Administrations needs to communicate with citizens using data. PDND is a Data Storytelling service

## Example

From the data of the Inventory of National Enterprise Incentives we created a Data Story telling where founding has been distributed. Graphs are taken from the PDND superset widgets and are dynamically updated as soon as new data comes into the platform.



# OpenAPI & 3<sup>rd</sup> Party Tools for DataViz, BI, Analytics



**PDND-nteract**

This is a branched (defn) fork of nteract, a react user interface on top of jupyter server. We have developed an integration of the API from PDND - DAF (Piattaforma Digitale Nazionale Dati) for simplifying the access to Italian public data inside notebooks for data analysis. We are developing a set of UI components integrated into a set of API to read, save and update data into PDND - DAF. As in the image below.

```
url = "https://api.daf.tecnodigitale.it/dataset-manager/v1/dataset/dafR3AR2FR2Fopendat042Fleccc_0_0002fente_1_fmigratzione_ed_emigratzione_9"
payload = ""

headers = {"authorization": "Bearer eyJ0eXB0c101110z11N1J0.eyJkaW50X3B1cn12jpbXSwic3V1Ijoib3JnLnR0bW90LmVkbXkYXUuHjvZn1s255R20F0hJyZn1s25NkX"}
response = requests.request("GET", url, data=payload, headers=headers)
fmigratzione = pd.read_json(StringIO(response.text))
data
```

## Example

Public Administrations that already have commercial tools for Data Viz, BI or Data Science, can connect directly to the PDND DataSets using our Web APIs

Pull requests Issues Marketplace Explore

Watch 7 Star 2 Fork 381

Pull requests Actions Projects Wiki Insights Settings

suite for you! 🌟 <https://nteract.io> Edit

Manage topics

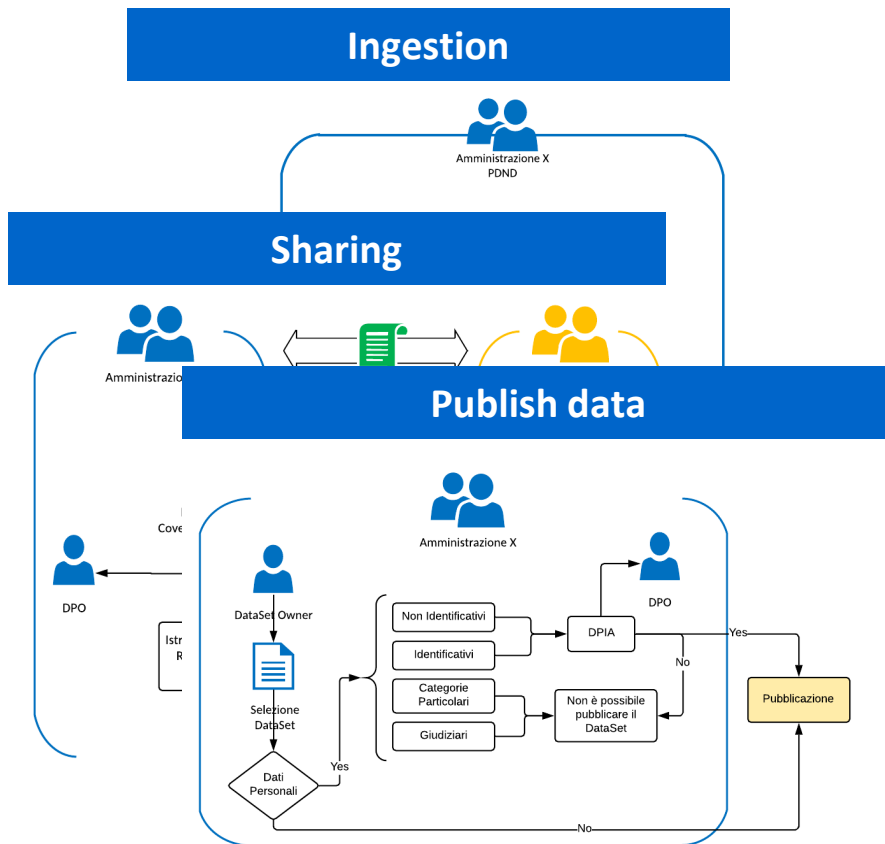
34 branches 1,465 releases 100 contributors BSD-3-Clause





# Ongoing Developments

# Personal Data Protection Rules / Privacy by Design



## Problem Addressed

Support the Public Administration in the compliancy with GDPR

## How

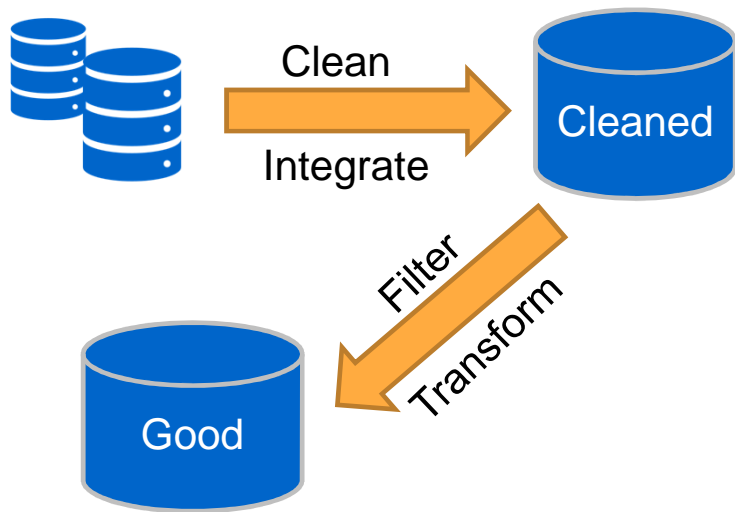
Implementation of **Data Protection Impact Assessment Forms** in the Ingestion and Data Sharing processes

Link impact assessments to every DataSet that contains personal data



# Data Governance Enhancement

## Data Quality Services



### Problem Addressed

Data Quality

### How

Implementation of an integrated Data Governance Framework that takes advantages of Standard Catalogs and Ontologies to create data quality control services to seamlessly identify personal or sensitive information



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Innovation7@G7

# Piattaforma Digitale Nazionale Dati



**Andrea Carlini**

CHIEF DATA PRODUCT MANAGER



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BIG DATA ENGINEER



**Giovanni Ruggiero**

BIG DATA ENGINEER



**Maria Claudia Bodino**

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VISUALIZATION



**Simone Piunno**

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DevOps Engineer



**Andrea Ceresoni**  
Cybersecurity



HANNO CONTRIBUITO: [Raffaele Lillo](#) , [Fabiana Lanotte](#) , [David Greco](#) , [Fabio Fumarola](#)



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# PDND Team





Superset Jupyter 3rd Party

Strumenti di analisi



ANAC

Mef

Istat

Mit

Torino

...

Ingestion Form & Meta Catalog

Extract Transform Load (ETL)

CLUSTER BIG DATA

Integrated Data Governance Framework

Open Data

Open Data in SaaS

dati.gov.it

dati.regione.x

dati.comune.y

Data Stories  
Catalogo Open Data

Data Stories  
Catalogo Open Data

Data Stories  
Catalogo Open Data

Data Portal Nazionale

Data Portal Regione X

Data Portal Comune Y



API

Application Programming Interfaces

Pubblica Amministrazione

Cittadini semplificazione

Imprese data applications



TEAM PER LA TRASFORMAZIONE DIGITALE

# Data Lake & Data Hub Platform





Home

Dataset

Widget

Datastory

Nuovo

TOOLKIT

Crea

Strumenti

Semantica

INFO

Documentazione

Area Privata / PDND - Piattaforma Digitale Nazionale Dati Italiana



25980  
DATASET



513  
WIDGET



12  
DATASTORY

## Dataset

test\_creation\_12



test\_creation\_12

d\_ale

CSV

REGIONE

Creto il 13/02/2019

anpr\_subentrata\_e\_prevista...



ANPR subentrata e  
prevista

d\_ale

CSV

GOVERNO

Creto il 19/11/2018

2009-2013-contribuzione-e-...



2009-2013  
Contribuzione e  
interventi atenei

miur

EDUCAZIONE

Creto il 2018-11-04

[Vedi tutti](#)



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# Private DataPortal

<https://dataportal.daf.teamdigitale.it/#/private>





PDND Italia

versione alpha 1.0



Area Pubblica ▾

Il progetto ▾

Getting started

Community ▾

Data Application

Linked Data ▾

# Esplora gli opendata

Cerca tra i dataset, i widget e le storie basate su dati opendata della pubblica amministrazione italiana

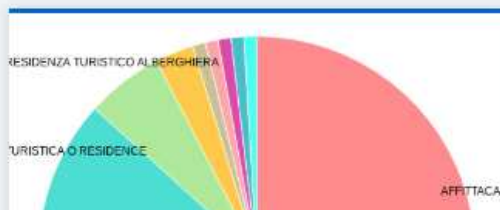


Cosa stai cercando?

oppure

Esplora per categoria

## A Datastory



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**Public DataPortal**  
<https://dataportal.daf.teamdigitale.it>



Organizzazioni

Provincia Autonoma ... (6585)

Regione Toscana (3671)

Regione Lombardia (3358)

Regione Emilia-Romagna (2026)

INPS (1758)

Roma Capitale (970)

Comune di Palermo (950)

Regione Sardegna (603)

Comune di Lecce (541)

Regione Veneto (505)

Cerca dataset...

**25.554 dataset trovati**

Ordina per: Rilevanza

**Politiche 2018: voti collegi senatoriali**

Elenco dei voti per collegi senatoriali della Città di Torino, suddivisi per sezione di voto e lista

**CSV**

**Europee 2014: voti preferenza candidati Forza Italia**

Voti di preferenza dei candidati al Parlamento europeo per la lista Forza Italia

**CSV**



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**OpenData Portal ( CKAN )**  
<https://ckan-geo.daf.teamdigitale.it>



italia / daf

### Data & Analytics Framework (DAF)

daf

1,199 commits   27 branches   2 releases   17 contributors   BSD-3-Clause

Branch: master   New pull request   Create new file   Upload files   Find file   Clone or download

gruggiero	Updated storage_manager version	Latest commit 1931ed1 on 25 Sep 2018
bin	Added build scripts	a year ago
catalog_manager	update doc and catalog manager deps	4 months ago
ckan	minor stuff	2 years ago
common	Updated common and storage version	4 months ago
dataset-manager	Feature/add metrics (#180)	a year ago
docs-dev	moved md into daf-operational docs	4 months ago
docs-ita/piano-triennale	[PM-19]	2 years ago
docs-usr	Aggiornamento documentazione	2 years ago



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# Open Source Code ( GitHub )

<https://github.com/italia/daf>



Search in Document...



About this document

bozza

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Source

CONTENT INDEX

Introduction

Overview

Dataset concept

Interoperability, Standardization and Semantic

End-user features: Dataportal & API

How DAF helps Open Data

# Data & Analytics Framework (DAF) - Developer Documentation

NOTE

This documentation refers to the Alpha version of the DAF (released in October 2017) and it is daily updated and improved. For comments and enhancement requests about the documentation please open an issue on [GitHub](#).



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**Docs, Processes, Procedures**  
<https://docs.italia.it/>





- Developers Italia
- Andrea Carlini
- Jump to...
- Threads
- Starred
- daf-security
- Shared Channels
- daf-private
- Channels
- # announce
- # chat
- # daf
- daf-choices
- daf-coord
- daf-datascience
- daf-hackathon
- daf-infrastructure-p
- daf-ingestion-forms
- daf-logs
- daf-pa-rgs
- daf-torino-private
- daf-updates

#daf

813 | 2 | Users and developers of Data & Analytics Framework | Edit

Tuesday, March 26th

Thursday, March 28th

**Andrea Carlini** @channel 1:26 PM

Carissimi,

In qualità di Chief Data Product Manager del Team per la Trasformazione Digitale sono qui a presentarmi come nuovo responsabile della **Piattaforma Nazionale Digitale Dati (PDND)** conosciuta oggi come **Data & Analytics Framework (DAF)**, la quale sarà oggetto di numerosi interventi atti a risolvere problematiche di stabilità, operatività, controllo e gestione dei dati, ed al contempo continuare lo sviluppo di nuove funzionalità per soddisfare i requisiti imposti dalle nuove regolamentazioni sul trattamento dei dati (i.e. GDPR) e quelli sulla loro sicurezza, condivisione, ed analisi avanzata.

L'aggiornamento dei documenti relativi alla nuova piattaforma è in corso, nel frattempo sono lieto di annunciare la pubblicazione della nuova **Getting Started Guide** che potete trovare al seguente indirizzo :

<https://dataportal.daf.teamdigitale.it/#/gettingstarted>

Questa guida è principalmente indirizzata alle Pubbliche Amministrazioni che sono interessate all'utilizzo della **Piattaforma Digitale Nazionale Dati (PDND)**, ma può essere da guida anche per coloro che vogliono capire il meccanismo di pubblicazione e condivisione dati privati e pubblici.

Un caloroso Saluto a tutti,  
Cordiali Saluti

**Andrea Carlini**  
<https://teamdigitale.governo.it/it/people/andrea-carlini.htm>

dataportal.daf.teamdigitale.it

DAF - Dataportal

DAF - Dataportal

Team per la Trasformazione Digitale

Search

**About #daf**

Channel Details

**Purpose**  
Data & Analytics Framework - development.  
Documentation: <http://daf-docs.readthedocs.io/en/latest/>  
Dataportal: <https://dataportal.daf.teamdigitale.it/>

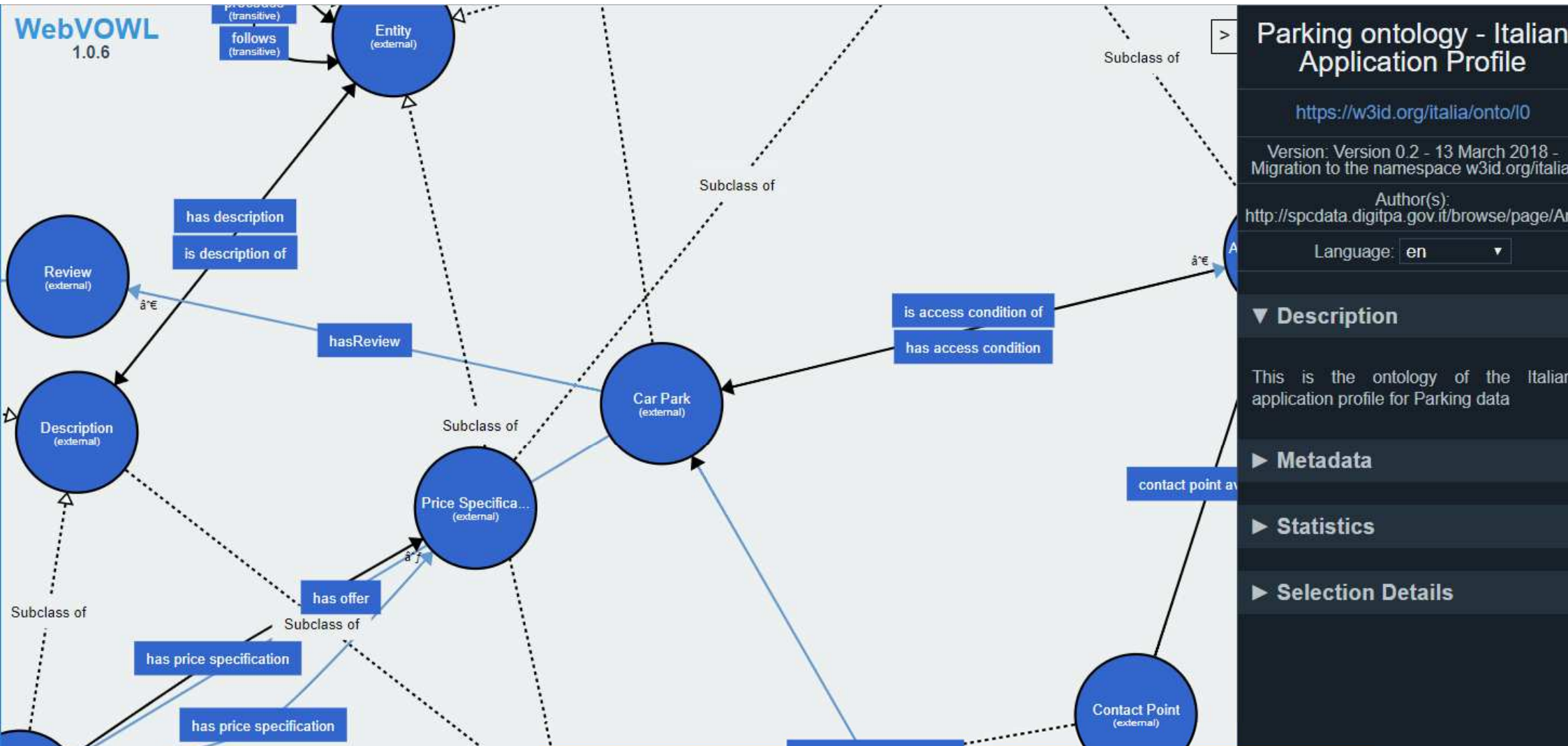
**Created**  
Created by Giovanni Bajo - TD on September 20, 2017

Questions? Try asking...

**Alessio Cimarelli**

Highlights

2 Pinned Items



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**Semantica ed Ontologie : OntoPiA**  
<https://ontopia.daf.teamdigitale.it/webvowl/>

