

Turning your Data/AI algorithms into **Full Web Applications** in no time with **Taipy**

February, 2024

Presented by **Avaiga**

The Problem

Low success rate of Python Data/AI projects while
companies spend vast amounts of money on them.

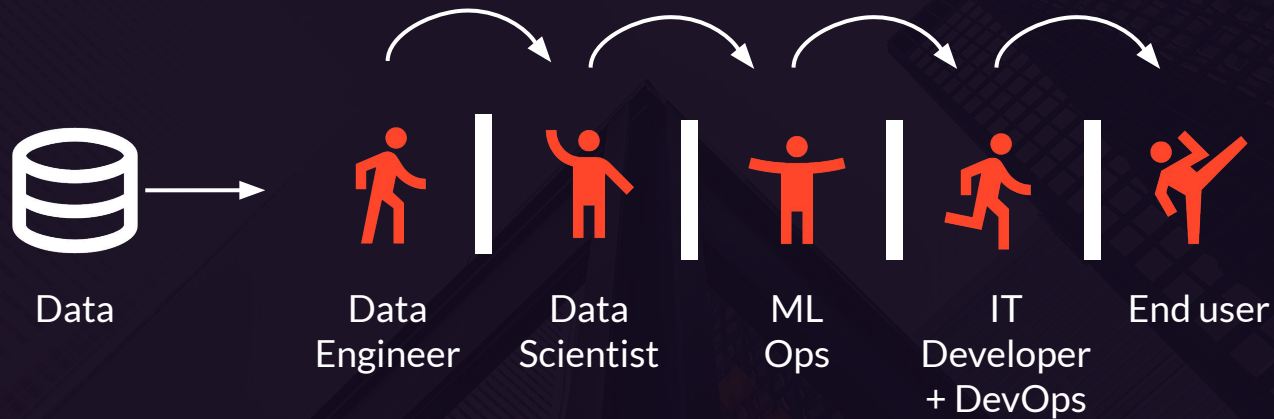
(Gartner 2019)

The Causes

- Lack of a common software platform,
- Gap between IT teams and End-Users ...
- Difficulty to recruit Talents,
- Current siloed approach is not working,

(IDC 2020)

From pilot to project, **Over 85% failure!**



**Almost 90% of data
applications take **too
long**, are **too costly** to
develop and deploy.**

Source: IDC 2020 FutureScape: Worldwide Data and Analytics 2021 Predictions

The Solution

What is Taipy?

Taipy covers **both** **Frontend + Backend**



100% Python
webapp
development



Open-Source &
Enterprise
license

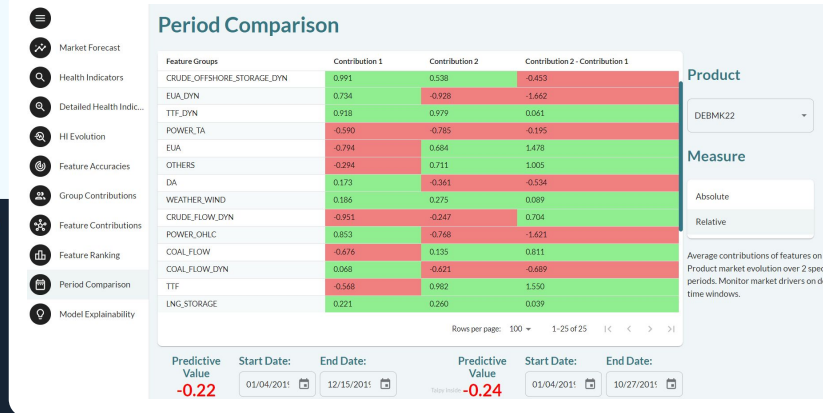
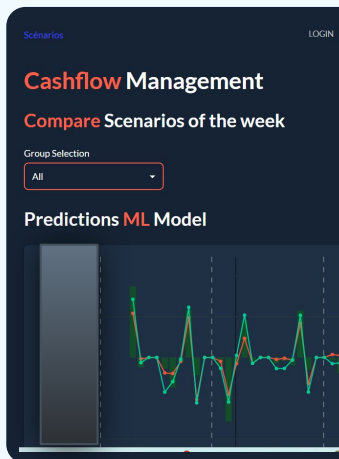


Easy to learn

Taipy

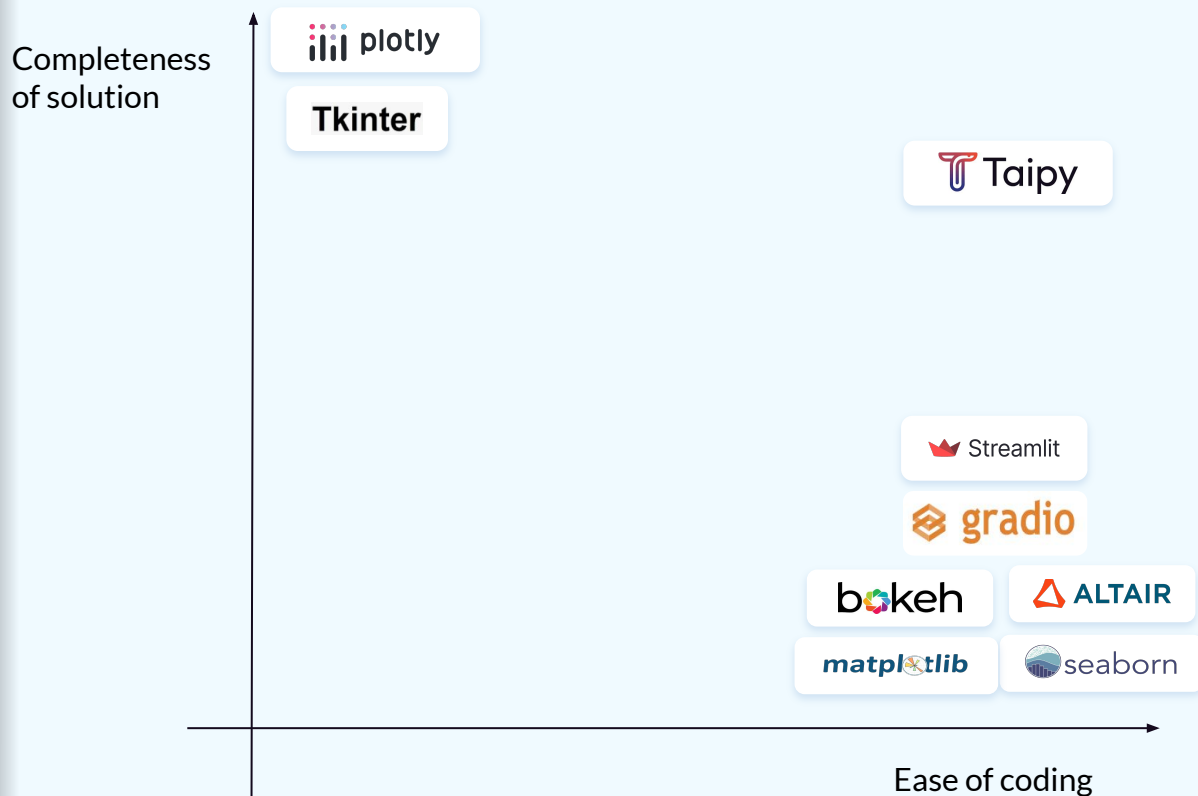
Covers:

- DashBoards, Data Apps,
- AI (ML, DL, RL),
- Simulation,
- Operations Research,
- Ad-hoc Algos,
- and more.



Taipy frontend

Python Graphical Packages



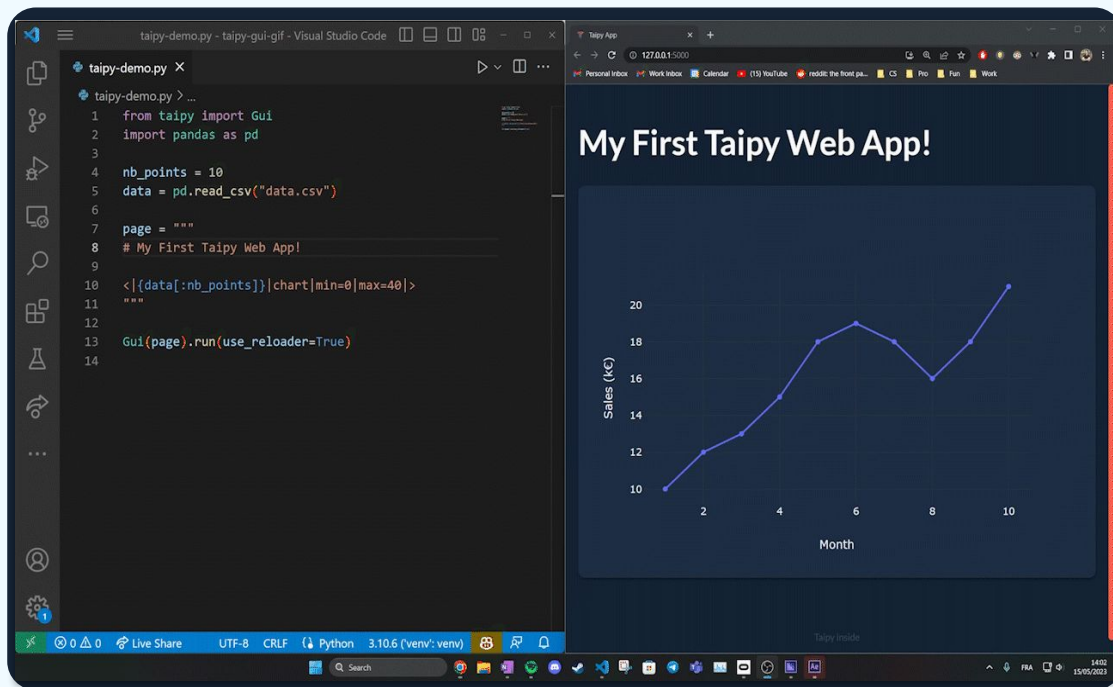
Taipy frontend

Python Graphical Packages

	Taipy	Other GUI Packages
Efficient Event loop	✓	✗
Sync / Async Calls	✓	✗
Easy Customization	✓	✗
Notebook Compat.	✓	✗
Markdown	✓	✗
Large Data Support	✓	✗
Multi-Users	✓	✗
Performance	✓	✗

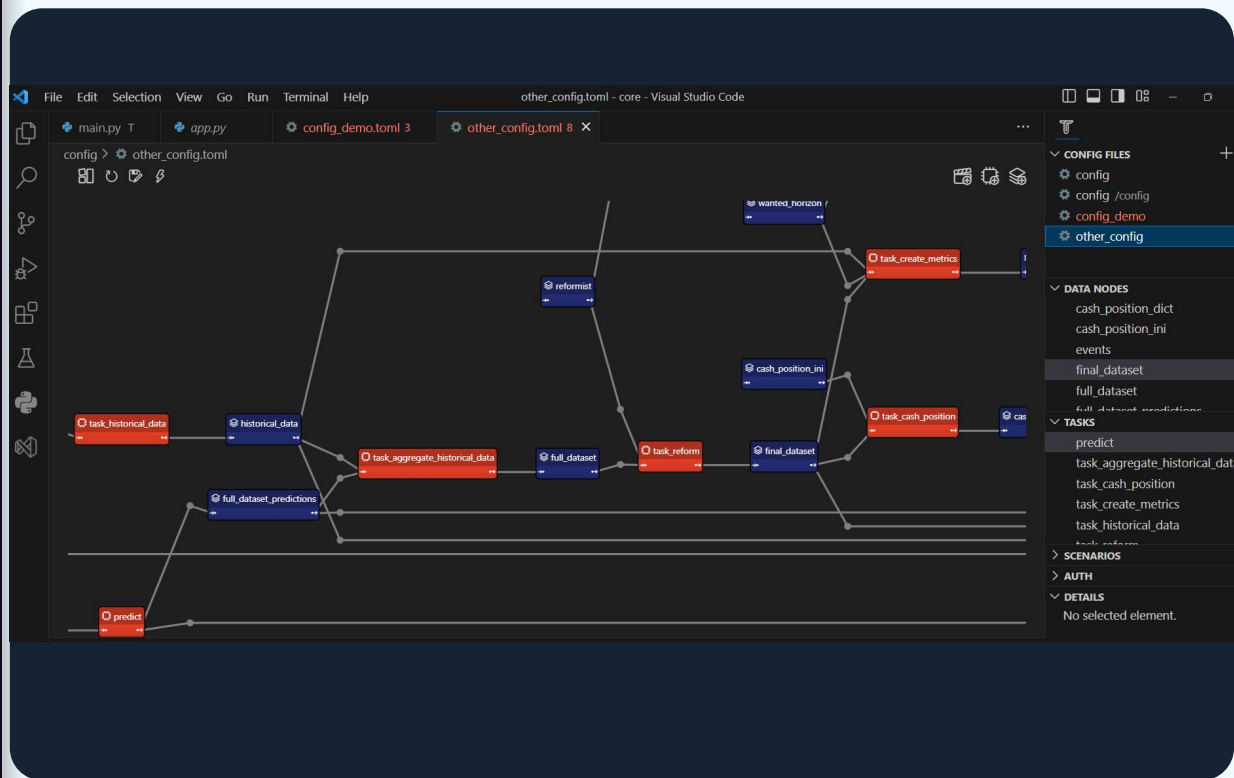
Taipy frontend

Python GUI Builder



Taipy backend

Powerful Pipelines with Scenario Management



Taipy backend

Execution Pipelines with Scenario Management

	Taipy	Other Pipeline Management Packages
Pipeline Execution	✓	do_ ✓
Scenario Mgt	✓	✗
Caching	✓	✗
Data Scoping	✓	✗
Versioning	✓	✗
Cycles	✓	✗
Time to master	Short	Long

Frontend and backend integration



Pipeline Execution



Monitoring



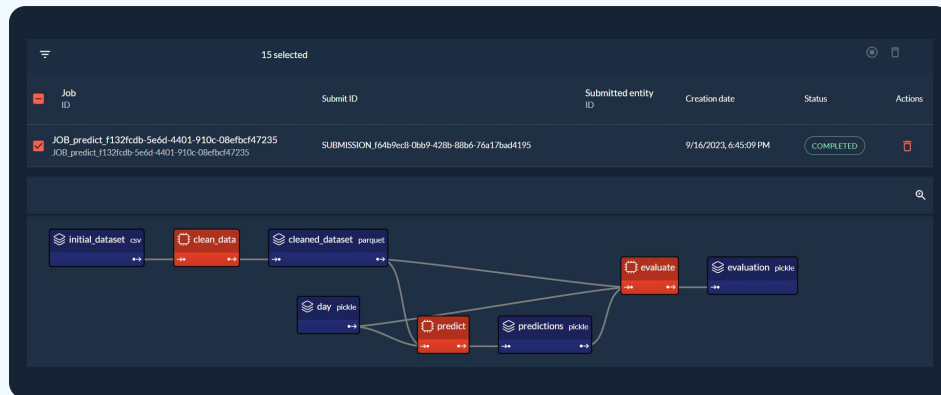
Graphical Explorers for your Data Nodes



Graphical Explorers for your executions (Scenarios)



Registering and Visualising your past Executions (ie Scenarios)



SCENARIO DATA NODE COMPARISON

Mode

September 2023

Scenario2

January 2021

scenario_2021-01-25

scenario_2021-01-25

scenario_2021-01-25

scenario_2021-01-25

ADD SCENARIO +

Day of prediction

day.pickle

PROPERTIES HISTORY DATA

Label day

Owner scenario_2021-01-25

is_generated True

New Property Key Value

DELETE PROMOTE TO PRIMARY

15 selected

Job ID	Submit ID	Submitted entity ID	Creation date	Status	Actions
JOB_predict_1132fcb-Sed4-4401-910c-08efbc47235	SUBMISSION_164b9ec8-0bb9-428b-88b6-76a17bad4195		9/16/2023, 6:45:09 PM	COMPLETED	

The Results

4 x

**Reduce development/
deployment time.**

Benefits

- Much faster industrialization of projects.
- Save development & deployment time
- Reduce maintenance costs.
- Facilitate collaboration.
- Better performance
- Much higher ROIs

10 x

**Savings of resources and
costs**

Benefits

- 90% of development work performed by Python developers.
- Little to zero need for resources from other departments.
- Much lighter in terms of project management.

Reduce Overall Cost by a factor 10 !

Project Example: Intermarché's Cash Flow Management	Budget	Number of IT personnel	Project Duration
Initial Option	600K	4	8 Months
Intermarché's IT Div using Taipy	60K	1.5	2 Months



“Taipy has become a core product for our AI strategy. Taipy allows to develop, deploy and maintain our AI applications with ease. It is an integral part of our corporate IT platform.”

**Arnaud de Ligniville, CFO
Intermarché**



Taipy brings all the functionalities needed for an AI driven supply chain: Scenario Management, great UX, Predictive and Prescriptive AI, etc. And all at a fraction of the costs of alternative solutions.

**Dang Huynh Uc My,
Chairman TTC Sugar**



Taipy enables us to implement the best practices to succeed with the industrialization of AI apps. It saves us several years of hard learning, many resources and has decreased the deployment of our apps drastically.

**Jesselynn M., Responsible for
McDonald's HR applications**



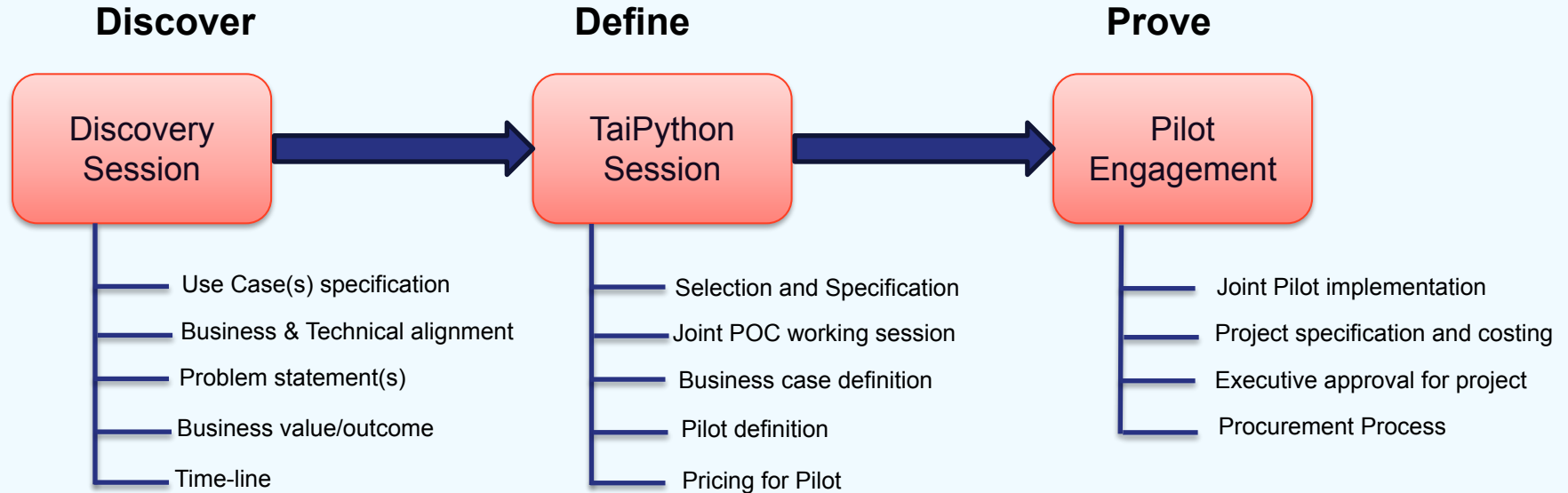
Taipy Enterprise

Overview

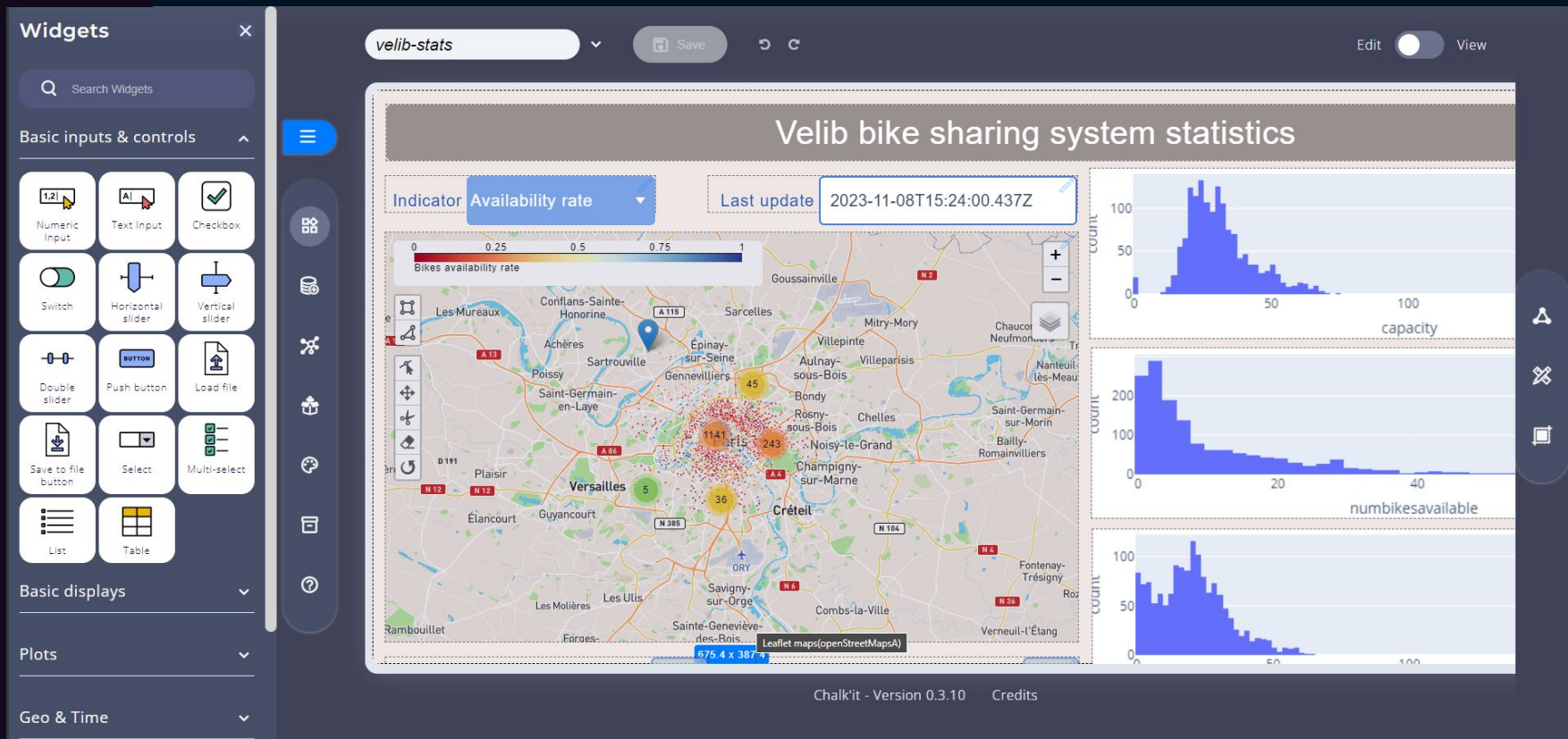
Taipy Enterprise

Product	Taipy Community	Taipy Enterprise
Taipy Open-Source	●	●
Product Support		●
Authentication		●
Authorization / Roles		●
Performance		●
Scheduler		●
Distributed Computing		●
Taipy Designer		●

Taipy Sales Engagement Process



Taipy Designer - Example



Taipy has a 'natural' integration with Data Analytics Platforms

Examples

- Databricks,
- Dataiku
- AWS SageMaker
- Google Colab
- IBM WatsonX,
- etc.



**Taipy Application connects
Databricks Data Sources**

**Taipy Application calls
Databricks Jobs**

**Run Taipy within Databricks
Notebooks**



**Taipy embedded in
Dataiku**

**Taipy application calls
Dataiku pipelines**

Thank **you**

And contribute to
our Git repo !



<https://github.com/Avaiga/taipy>

Additional Slides



Taipy's own Cloud, Taipy Cloud

Taipy Cloud



Deploy your Taipy Application
with Point & Click



Anyone can deploy on Taipy
Cloud!

Add an app

App name

Nemo

App files

Choisir un fichier covid.zip

Only *.zip files are allowed

Entry point file

main.py

Path to the file to run as app entry point (*.py)

Cancel x

Deploy app ✓

Cloud
machines

Add machine +

II

RUNNING

⏻

venus

RUNNING

⏻

Machine (tiny)

CPU:	RAM:	DISK:	PYTHON:
0.1 core	1 Go	100 Go	v

Current usage

CPU: 0%	RAM: 0%	DISK: 72/100%
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Files

venus-fred.develop.cdsone.com

Remove machine

x Apps on venus

Add app +

neith

RUNNING

⏻

Specs

SIZE ON DISK:	LAST DEPLOYMENT:	TAIPY VERSION:
729216 Ko	2022/11/03	v2.0

Files

https://neith-fred.develop.cdsone.com/

Remove App

Add a machine

Machine name

Ex: Alpha

User name

Ex: alpha_user

FTP password

Contains letters, digits and special characters

Confirm FTP password

Type the same password as above

Machine size

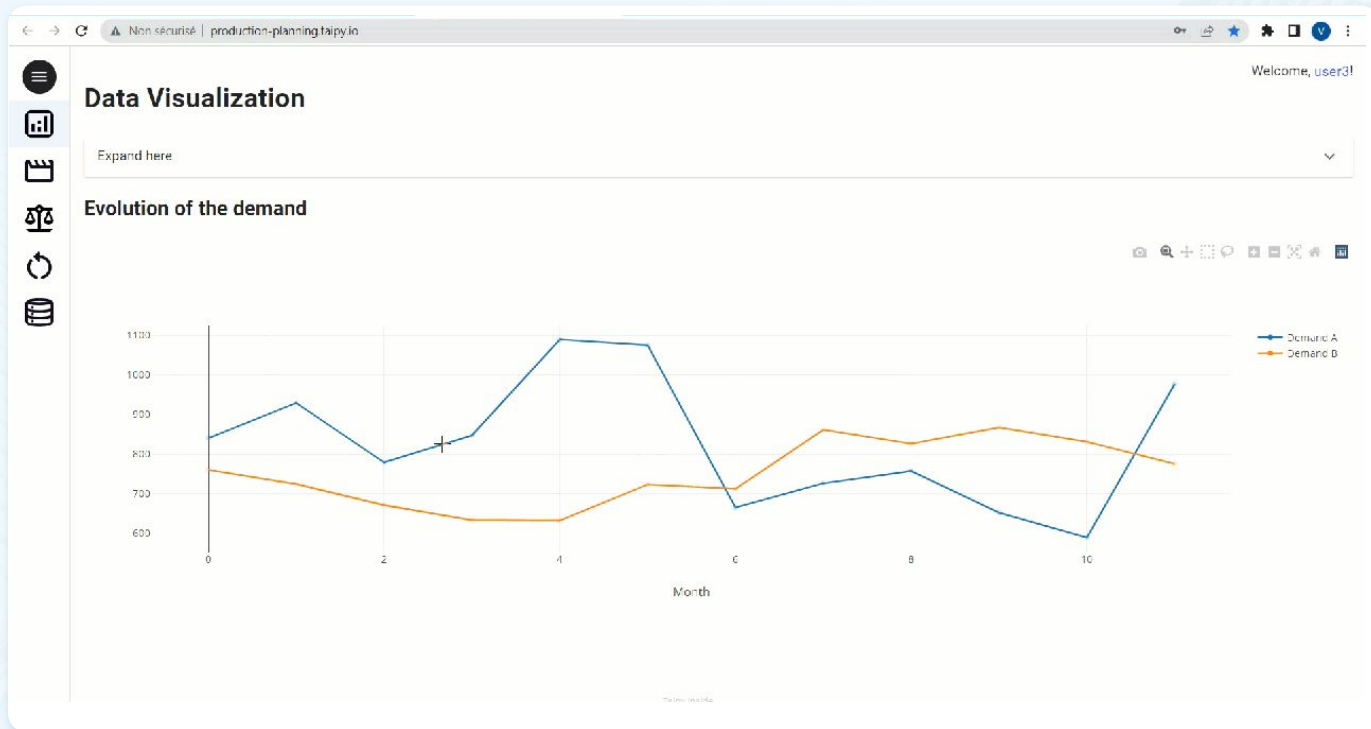
Tiny

Determines machine specs and cost

Cancel x

Create machine ✓

Taipy Demo



**Only 20% of analytic
insights delivered
business insights
through 2022.**

While companies spent **271B\$** on Data
Analytics

*Sources: Gartner 2019, Our Top Data and Analytics Predicts for 2019
Fortune Business Insights 2022, Big Data Analytics Market Size*

Taipy is launching its own LLM,
TalkToTaipy

TalkToTaipy



Taipy Application



Generates Taipy code



Load your own excel/csv
table(s)



Ask any question



Generates Taipy graphical charts

