HADAR

An open source adequacy library for everyone

RTE

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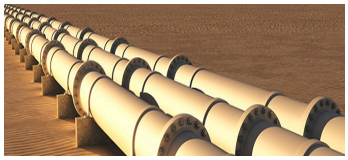
WHAT IS HADAR?

Hadar is an open source adequacy library for everyone. All these words are important. To understand Hadar, we will explain them

ADEQUACY



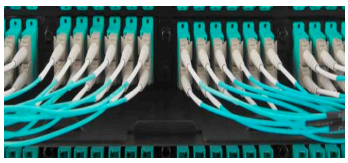


Figure 1 adequacy is everywhere in society

Adequacy is the art of managing resources on network. Everywhere in the world, there are networks with some productions and some consumptions. How to match both at the lowest cost? Find this set of exchanges and productions is the goal of adequacy.

Adequacy is everywhere. Society has to manage electricity in lines, gas in pipelines, data in cable or packages on the road.

"Adequacy is the art of managing resources on network"

It sounds already complicated, but most of challenges are in front of us. New unpredictable electric generations will transform energy mix.

Sharing economy already let's people to use their car like a taxi, their house like a hotel and soon they become not only energy consumers but also producer. Moreover, resources managing has to become more efficient to reduce CO2.

Hadar is an adequacy tool to manage the future.

OPEN SOURCE PYTHON LIBRARY

"Software is eating world" - Marc Andreessen. That true, and a good open source library is a hungry people. For example, machine learning was underrated for a while. Algorithm was tricky to code and tricky to use.

Figure 2 a high-level library is a game changer like scikit-learn for machine learning

Why machine learning has been spreading so fast? Today every startup, student, company work on machine learning. Huge open dataset could explain a part. But most of success comes from scikit-learn. This library brings obscure machine learning algorithms to easy and ready to go python library.

Scikit-learn brings machine learning from research to development. Everyone can now launch a learning session with just few lines of code.

Hadar wants to be the scikit-learn of adequacy. Hadar brings adequacy theory from research to development. With Hadar, start an adequacy start takes just few lines.

"Hadar brings adequacy theories from research to development"

FOR EVERYONE

"For everyone" means two things:

- *Hadar can be use be everyone, no matter if user doesn't work on adequacy from many years. Hadar API is straight forward, you create a study like you draw it: add nodes, links, attach consumption or production on node, etc.*
- *Hadar is a toolbox, industry, research, TSO / RSC can use it to build their perfect solution*

THE FOUR HADAR'S PILLARS

OPEN SOURCE

Tired of cost expansive and vendor lock solution? Switch to open source, keep software and data on your control.

EASY TO USE

Make your first adequacy in seconds, not days. Hadar is an adequacy solver designed for everyone

END TO END SOLUTION

Hadar is not just a study adequacy solver, it can generate your studies, analyze and plot your results

EXTENDED

Add your python code. Hadar is designed to be flexible and easy extended for your business

USE CASE EXAMPLES

RESEARCH TOOL

[Hadar **+ Jupyter**] is the native Hadar use. You can easy test and prototype new feature with Hadar python. API.

Jupyter Notebook is empowered by Hadar with a complete dashboard and interactive plot.

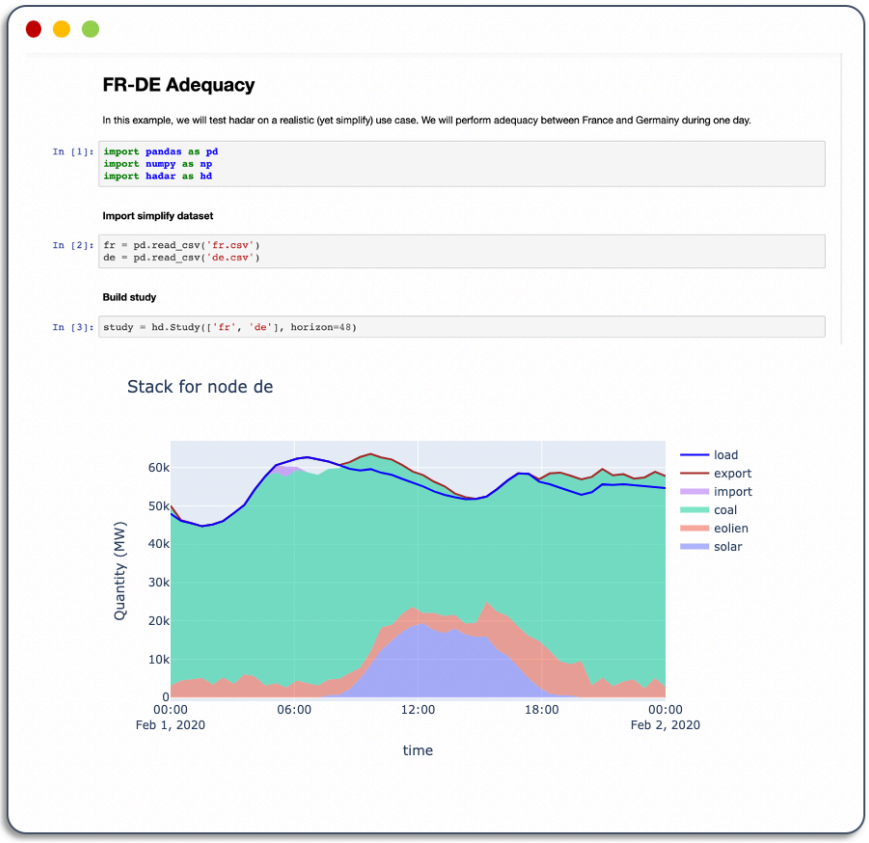


Figure 3 example of notebook screenshot

COLLABORATIVE PLATEFORM

[Hadar **+ Cloud**] Hadar can already be served by a web server. Therefore, study computation can move to cloud infrastructure.

"Hadar is designed for cloud pattern"

Around this simple server, complete platform can be developed to create seamless and collaborative platform for searchers or dispatchers.

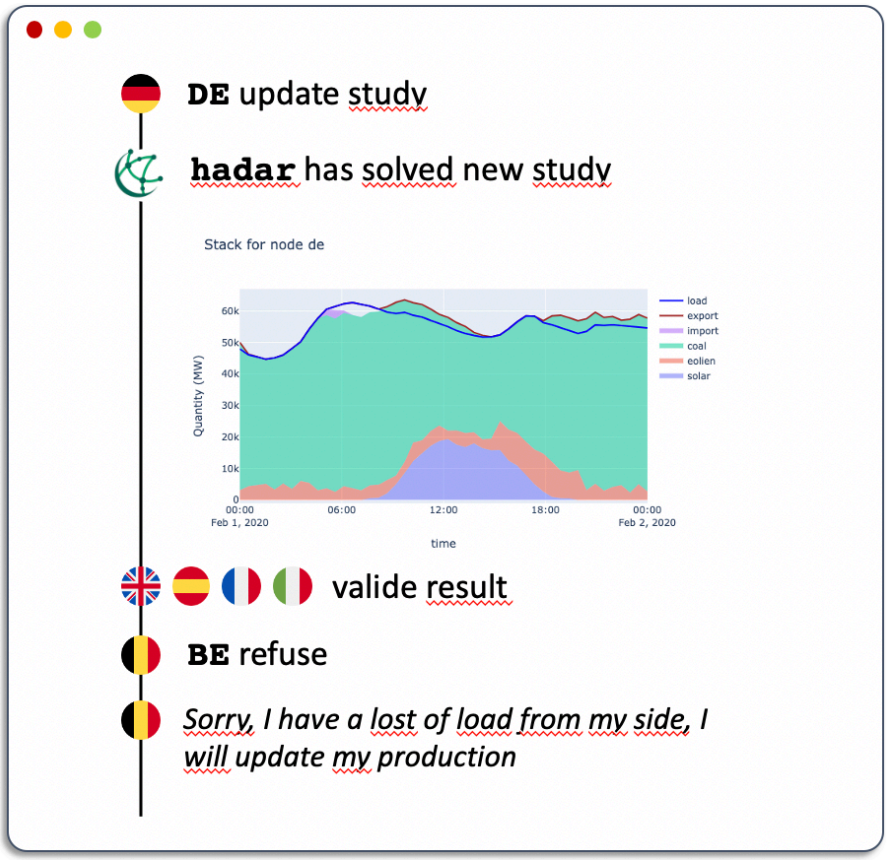


Figure 4 example of collaborative platform screenshot

INVESTMENT SOFTWARE

[Hadar **+ GUI**] Hadar can be extended with new features, like an UI and an invest tools analysis.

Industry could build software to analyze most efficient network investments.

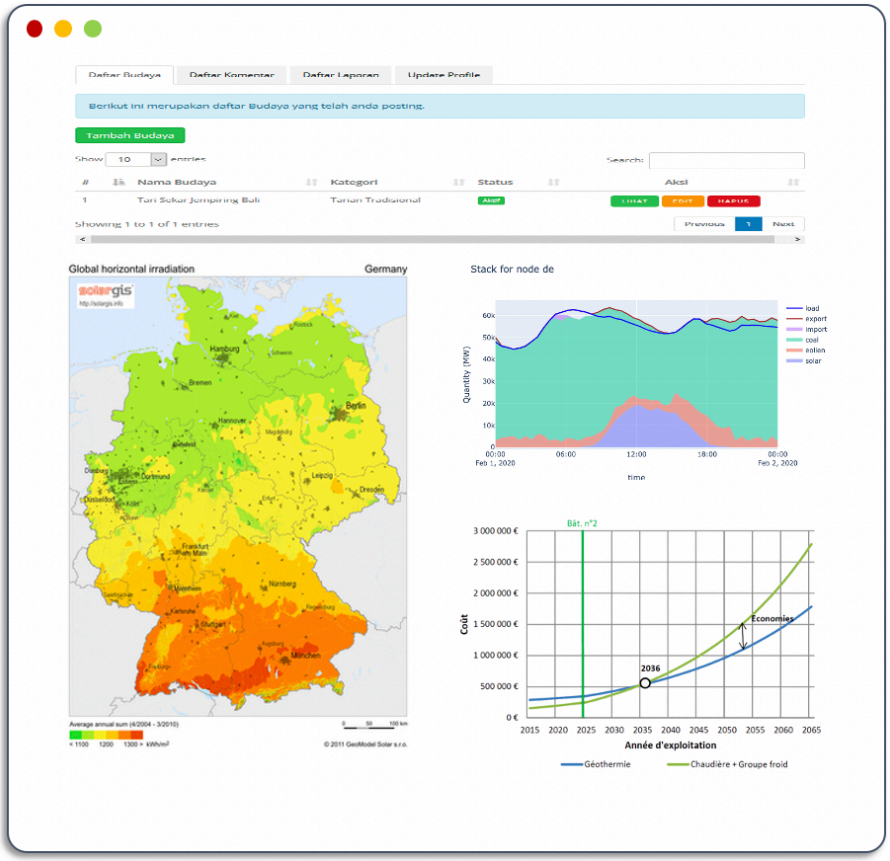


Figure 5 example investment software screenshot

PROTOTYPE AUTOMATES

[Hadar + Controller] rises Hadar in the real life! Of course, Hadar as an industrial real-time dispatcher has not in the scope.

However, Hadar can be in hours used in a Raspberry Pi to create prototype automate.