

Atlas of Productive Synergies

An open platform to visualize French industrial know-how and support the construction of a sustainable production system

Arnault Pachot
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Open.
Studio



ATLAS
DES SYNERGIES PRODUCTIVES

Measure

&

Recommend

- Value chains
- Know-how
- Dependencies
- HR competences
- Resilience

- Local suppliers
- Diversification
- Relocations
- Trainings

Open Data

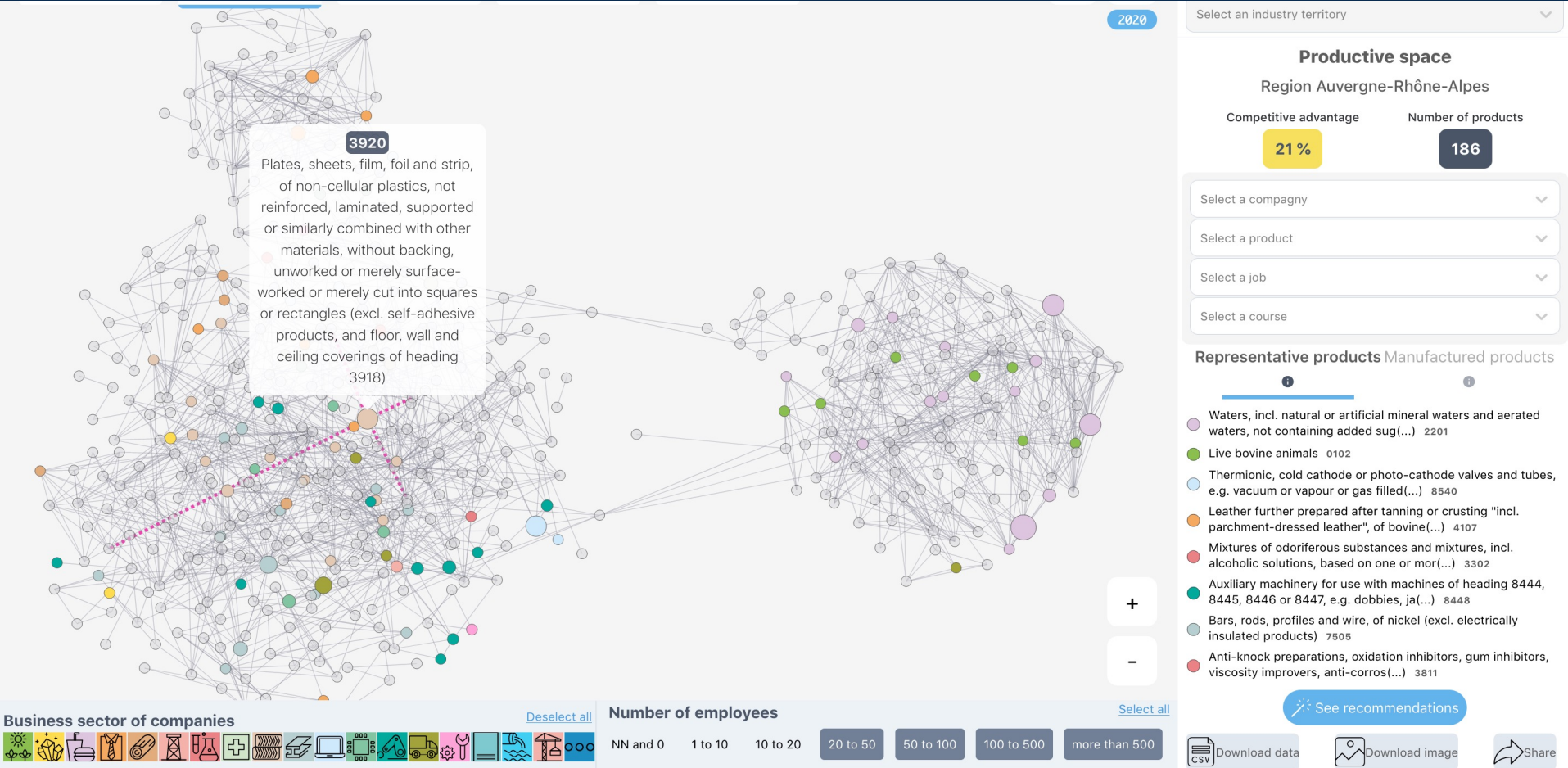
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AI

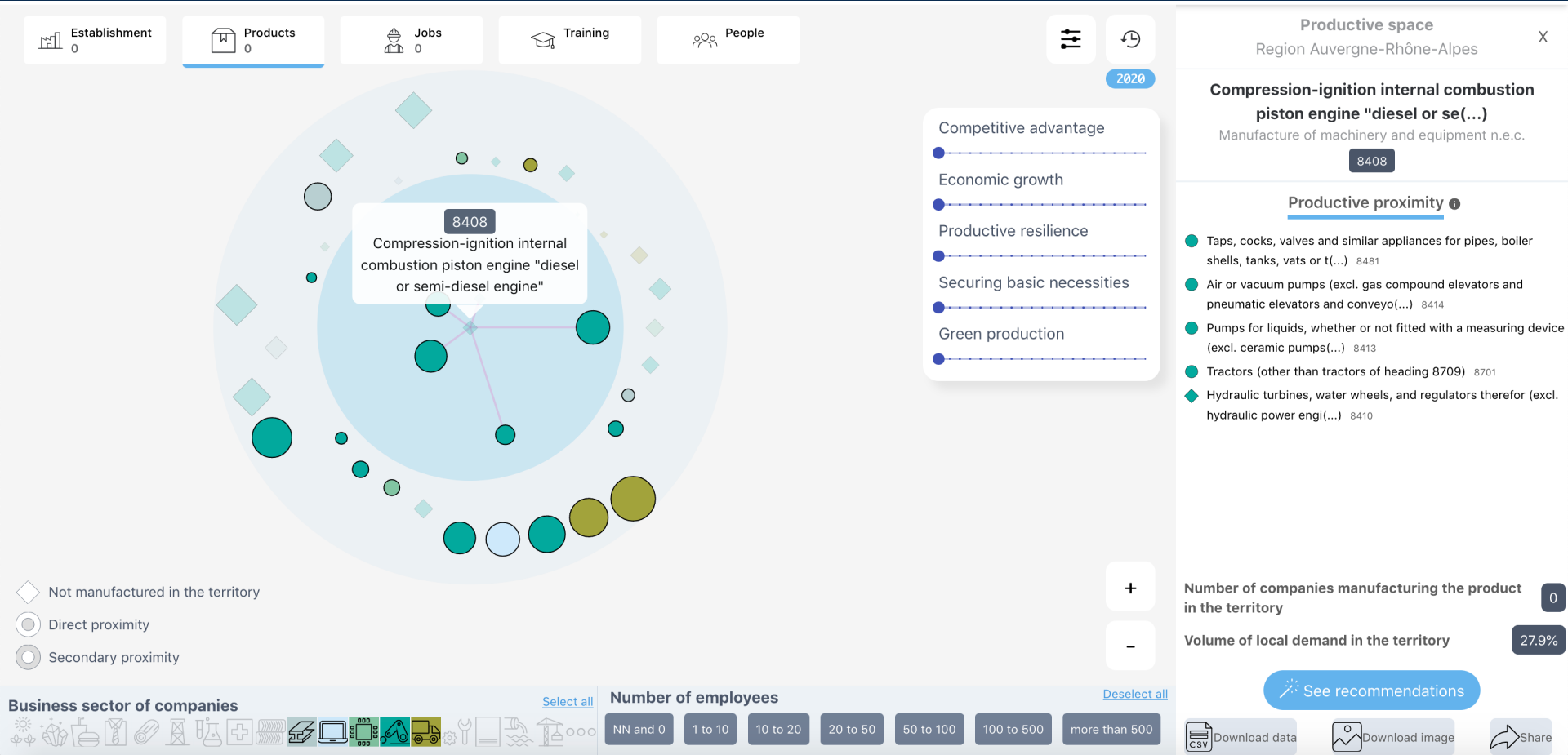
- International trade
- European productions
- Register of companies
- Company websites
- Financial data
- Data from Pôle Emploi
- Ecological products
- Equality M/F
- I/O Tables
- Harvard Proximities

- Machine Learning
- Word2vec
- Transformers
- Clustering
- Multidimensional Scaling
- Model-based collaborative filtering
- Graph learning methods
- Multi-objective & multi-stackholders recommendation

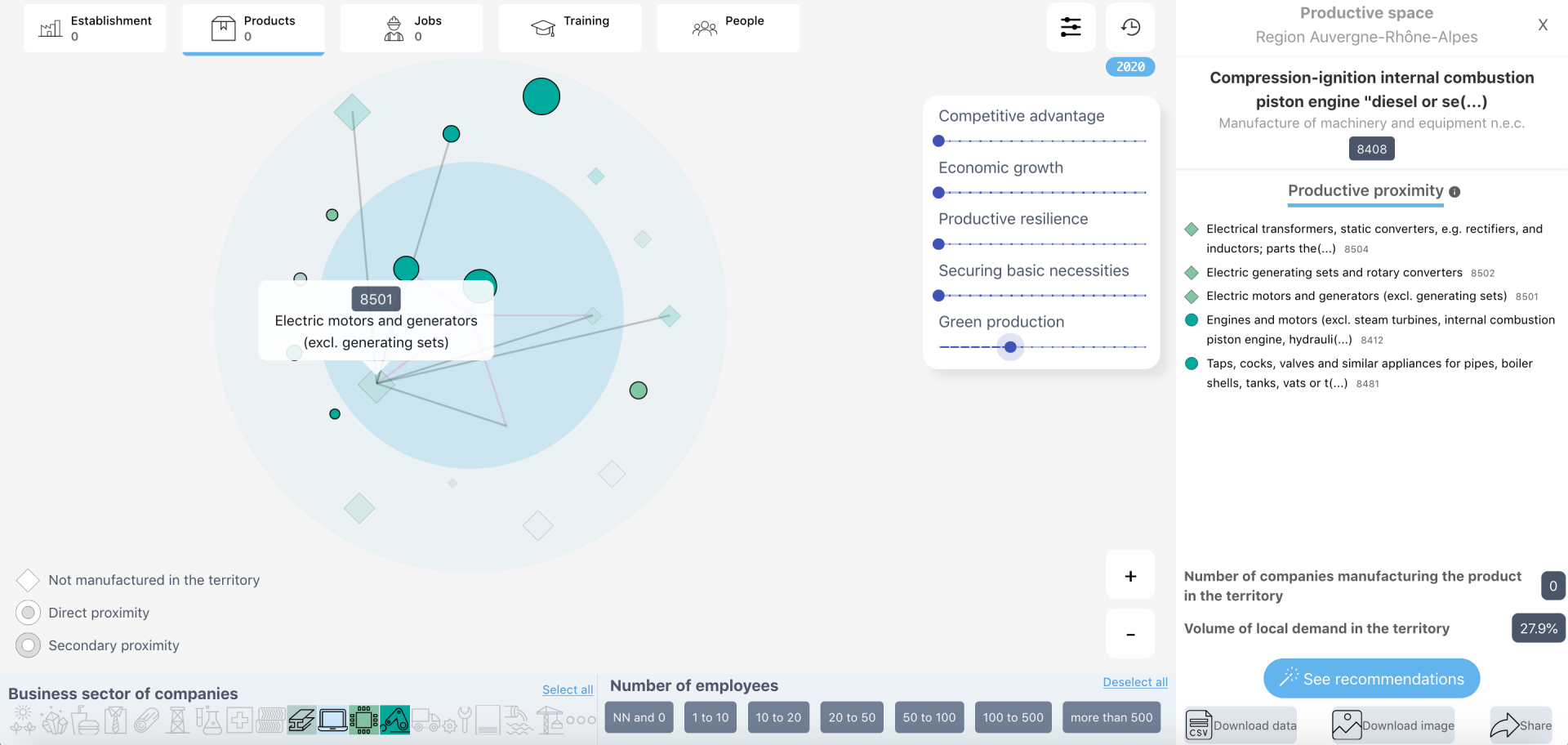
Use case #1: Diversification



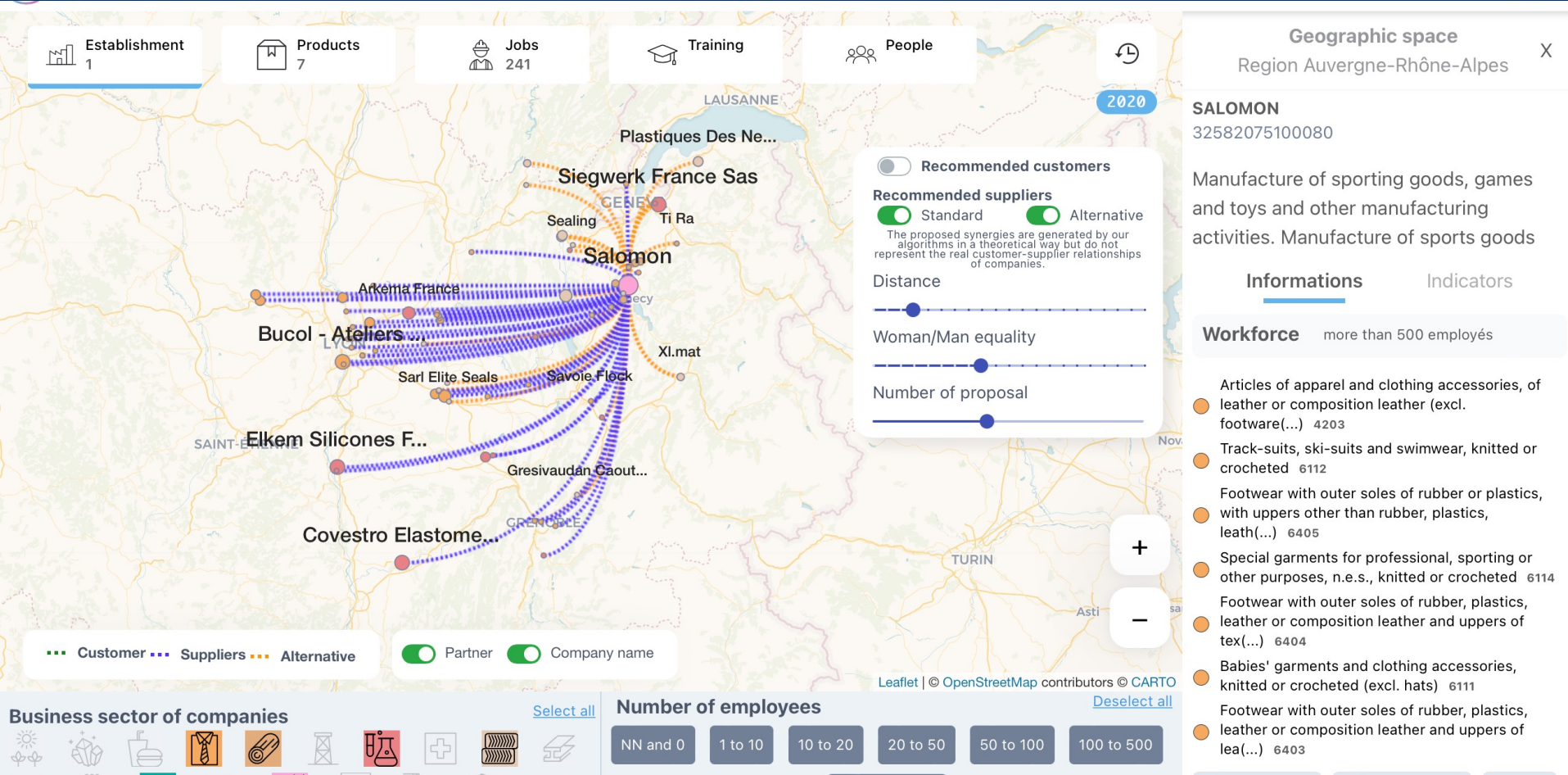
Use case #1: Diversification



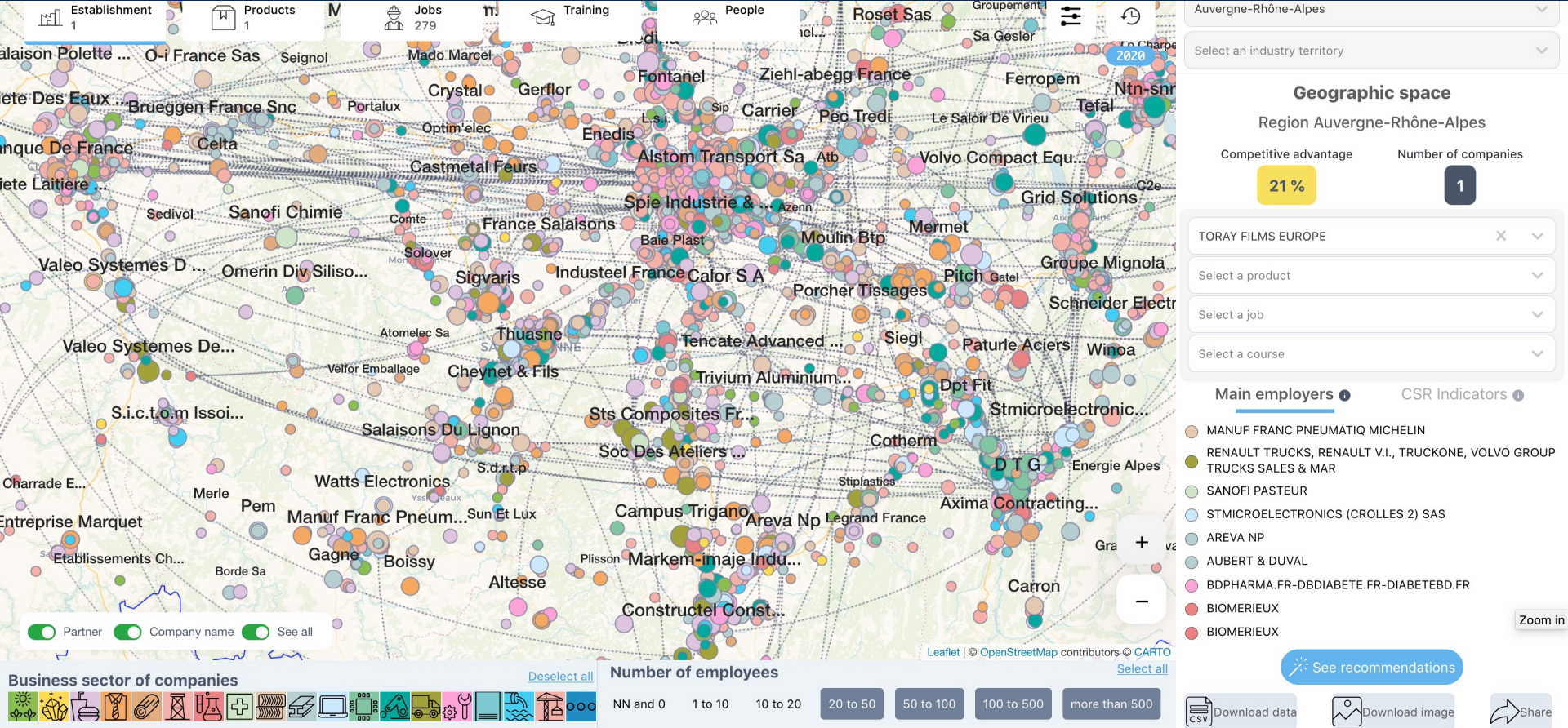
Use case #1: Diversification



Use case #2: Potential suppliers

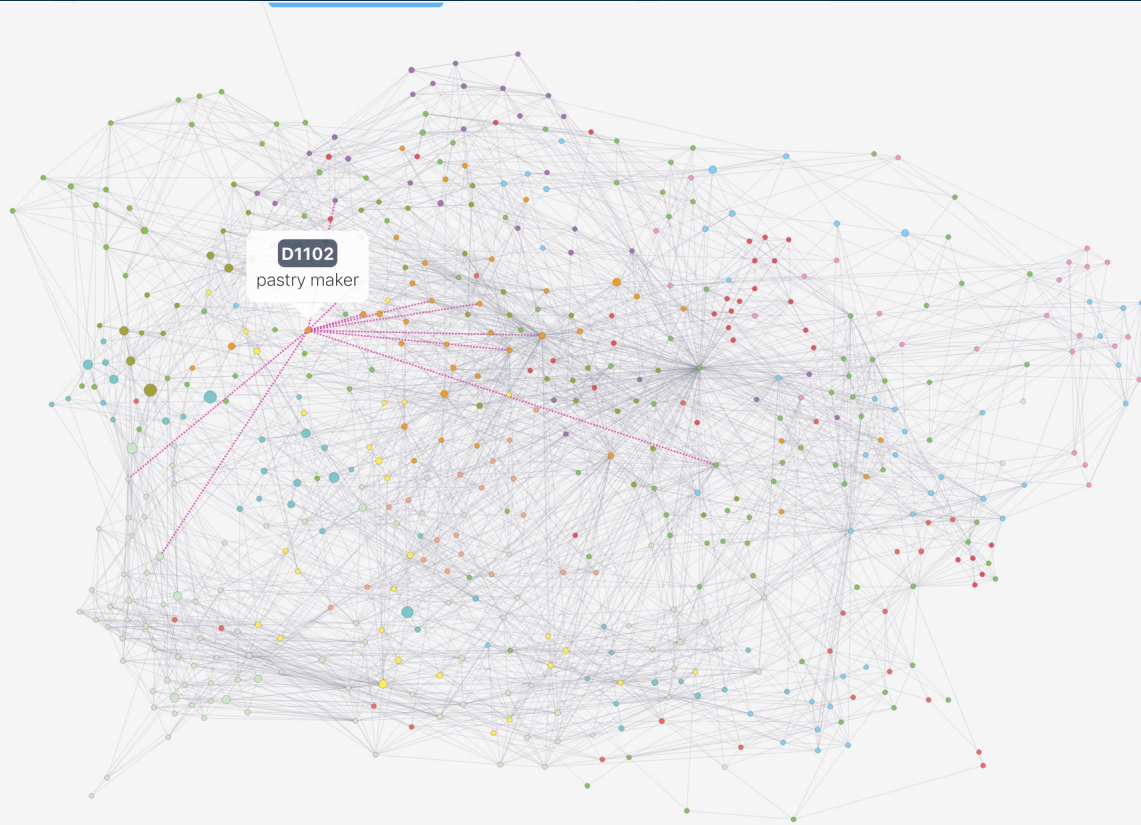


Use case #2: Potential suppliers



Use case #3: HR competences

2020



pastry maker
Trade, Sales and Retail
D1102

Business description **Business evolution**

- category manager
- chemistry teacher secondary school
- bulk filler
- personal shopper
- eyewear and optical equipment shop manager
- personal shopper
- pastry maker
- eyewear and optical equipment shop manager
- bulk filler

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Deselect all

See the trainings

Download data Download image Share

Professional field of trades



Use case #4: Resilience Index

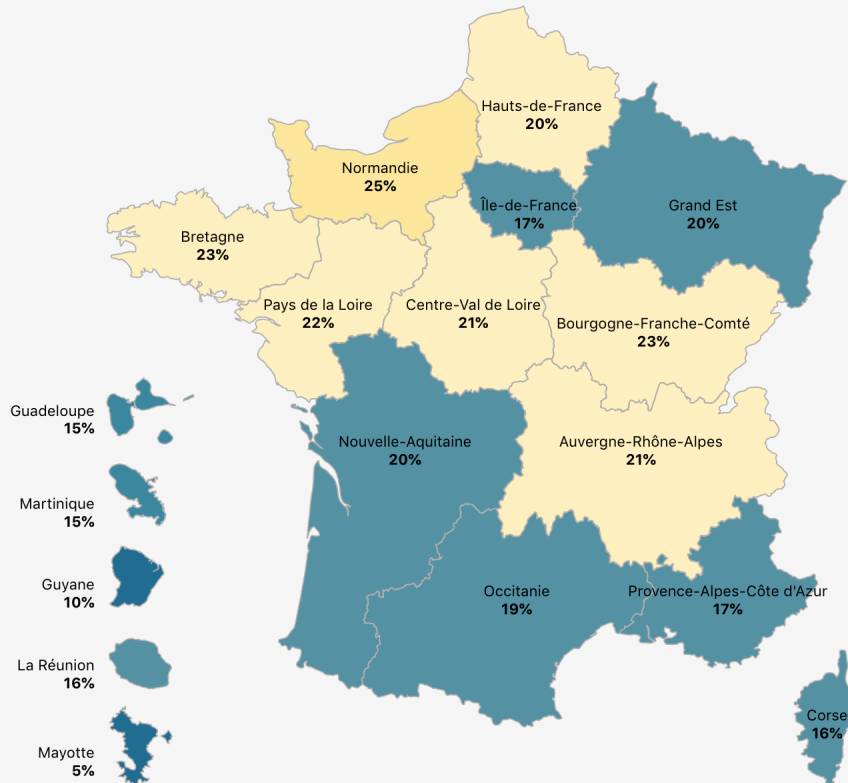
Regions

Industry territories

EPCI



2020



Conclusions

- The Atlas of Productive Synergies is a platform to conduct experiments
- We developed a twin of the French production system that allows us to play out crisis scenarios and predict their impacts
- We can also make recommendations to avoid shortages
- We measured a Resilience Index (RI) for companies. We observed a correlation between Local Backup Provider, Supply Chain Flexibility, and the variation in company's turnover between 2019 and 2020.

Perspectives

- We will integrate the models we have obtained on energy flows and on waste (circular economy)
- We are working on the automatic identification of industrial sectors with graph learning methods
- We need to finalize the training and relocation part
- We will develop a web crawler that can automatically update supplier databases and identify new ones.
- We plan to work on a European scale
- We are looking for companies or territories to continue the experiments

Thank you !

Arnault Pachot

apachot@openstudio.fr

arnault.pachot@etu.uca.fr

<https://www.linkedin.com/in/arnaultpachot/>

<https://atlas.productive-synergies.com>

<https://github.com/apachot/Atlas-Productive-Synergies>