

Building an OSPO in the Energy Sector

The Alliander Experiences

Jonas van den Bogaard & Nico Rikken | Alliander | 23-1-2023

OLFENERGY

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Introduction



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Open source Advocate
& Solution Architect
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Open Source Advocate
& Senior DevOps
Consultant @Alliander



Electricity grid length

92,000 km

91,000 km in 2019

Gas grid length

42,000 km

42,000 km in 2019

Number of customer
connections

5.8 million

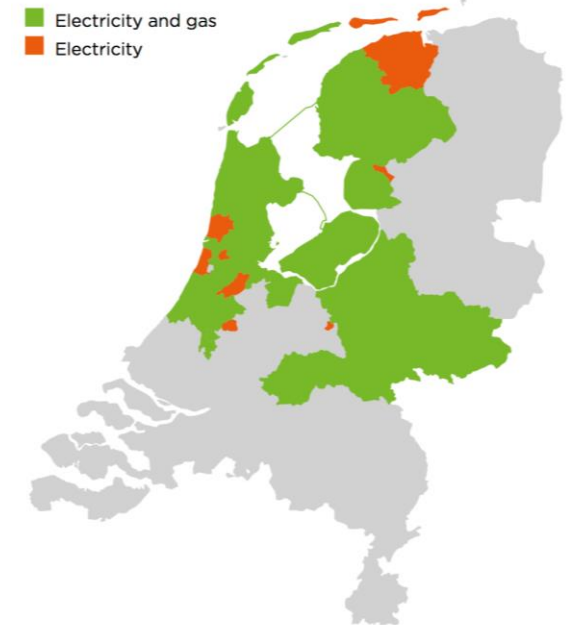
5.8 million in 2019



Number of employees

5,881 FTEs

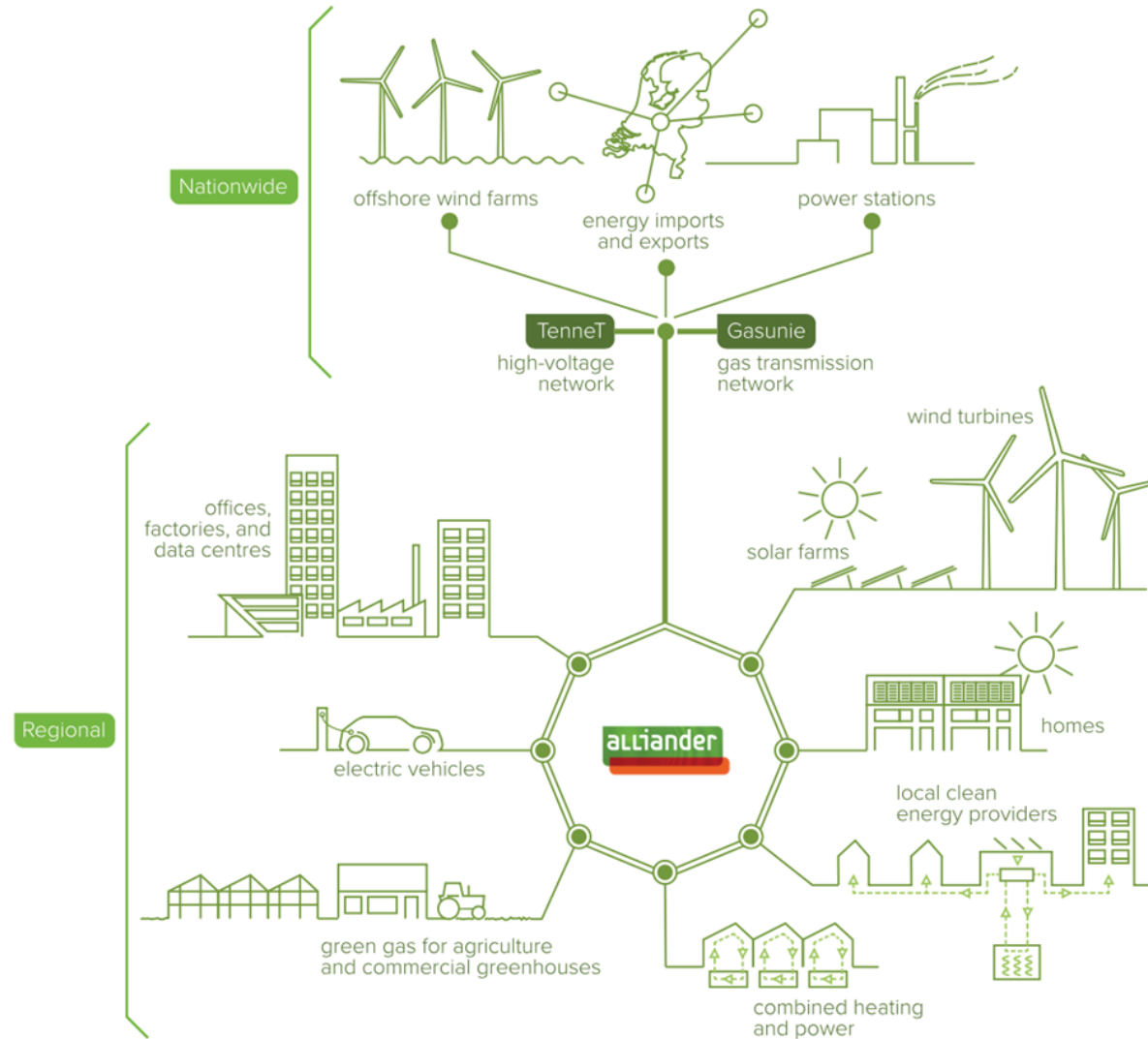
5,703 FTEs in 2019



Agenda

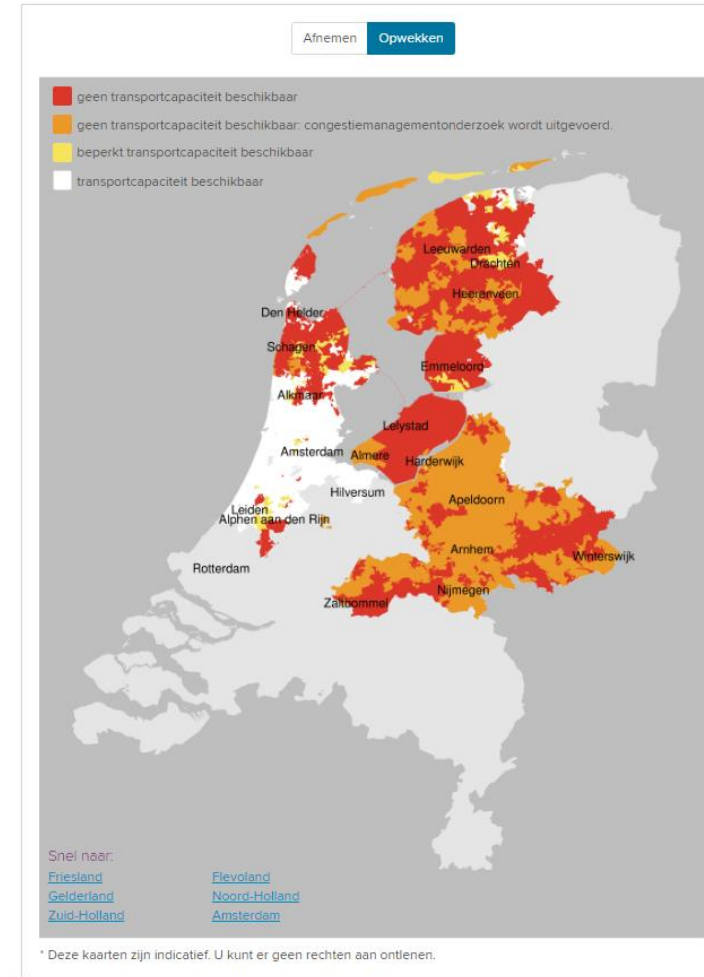
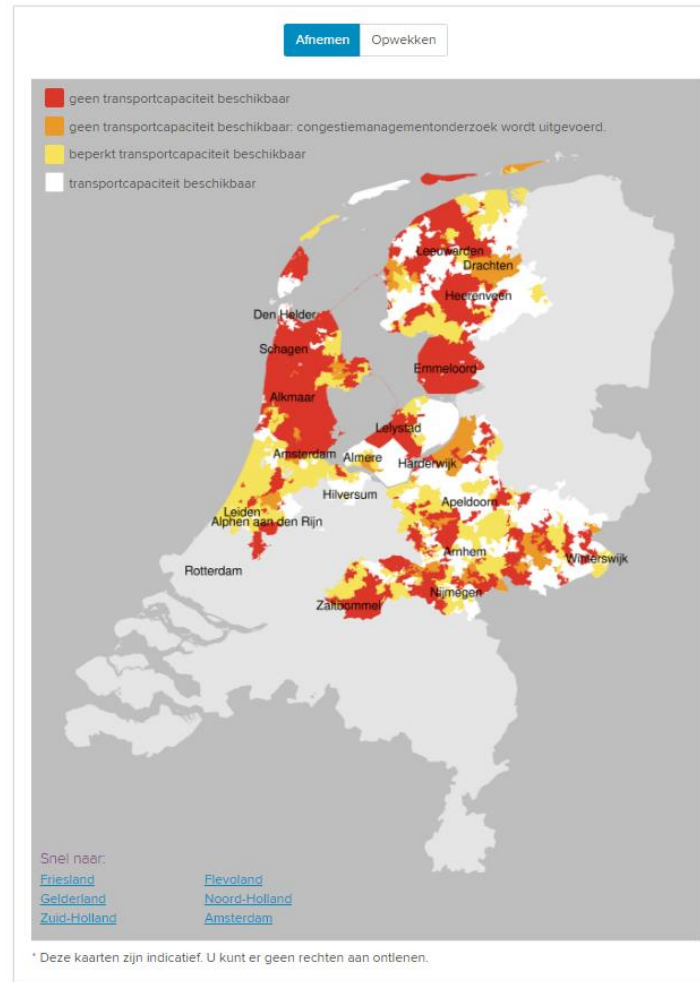
- Why we started with the OSPO
- What we do at the OSPO
- What we've learned

Key challenges of a Distribution system operator



Key challenges of a Distribution system operator

The demand for electricity is growing so fast that it is driving the grid to its limits



Open Source

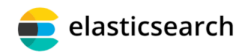
Hard to Imagine a Modern IT Stack Without OS

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Open-source software (OSS) is used in mission-critical environments by more than 95% of organizations worldwide.

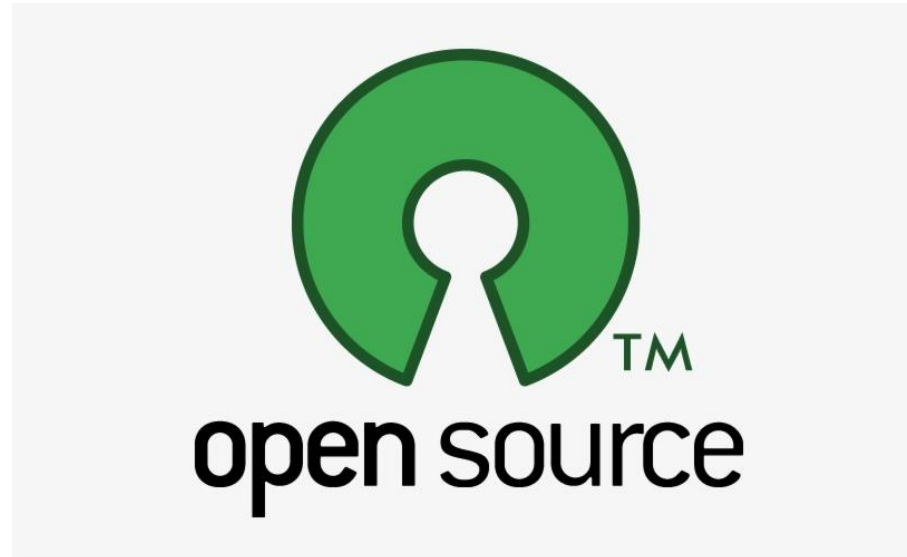
Many innovative technologies for building cloud-native and digital applications are OSS. Digitalization without OSS is impossible.

Source: Gartner



Open Source at Alliander

More and more open source software is used



Open Source at Alliander

More and more open source software is used



More and more open source software is used

Co-creation is a key theme in Allianders digitization strategy

Why we started an OSPO

A first version of Alliander open source strategy published

Alliander joining
OLFENERGY

Open Source at Alliander

Who are in the OSPO



Virtual OSPO team with
2~ FTE dediacted time



Business
sponsor



Enterprise Architectuur
sponsors



Open Source
Advocate



Open Source
Advocate



Open Source
Advocate



Open Source
Community manager



Community
development
manager

Day-to-day
operations

OSPO experts



Jurist



Marketing &
Communicatie



What do we do at the OSPO

Centre of knowledge of open source & innersource within Alliander;

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OSPO Reviewed License checklist

Volledige naam	SPDX Identifier(s)	Type licentie	Alliander oordeel
Academic Free License (AFL)	AFL-1.1 AFL-1.2 AFL-2.0 AFL-2.1 AFL-3.0	permissive	Toegestaan
Apache License 2.0	Apache-2.0	permissive	Toegestaan
GNU Affero General Public License	AGPL-3.0-only AGPL-3.0-or-later	restricted	Niet toegestaan
BSD 1-Clause License	BSD-1-Clause	permissive	Toegestaan
BSD 2-Clause "Simplified" License	BSD-2-Clause	permissive	Toegestaan
BSD 3-Clause "New" or "Revised" License	BSD-3-Clause	permissive	Toegestaan
Boost Software License 1.0	BSL-1.0	permissive	Toegestaan
Business Source License 1.1	BUSL-1.1	other	Niet toegestaan
Cryptographic Autonomy License (CAL)	CAL-1.0 CAL-1.0-Combined-Work-Exception	other	Niet toegestaan
Creative Commons Attribution 3.0 Unported	CC-BY-3.0	permissive	Toegestaan
Creative Commons Attribution 4.0 International	CC-BY-4.0	permissive	Toegestaan
Creative Commons "Non-Commercial" licenses	CC-BY-NC-1.0 CC-BY-NC-2.0 CC-BY-NC-2.5	other	Niet toegestaan

OSS
Consumption

OSS
Contribution

OSS
Creation

Inner-
source

What do we do at the OSPO

Centre of knowledge of open source & innersource within Alliander;

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**How do I register the authors
(copyright holders) with a third party
OS project?**

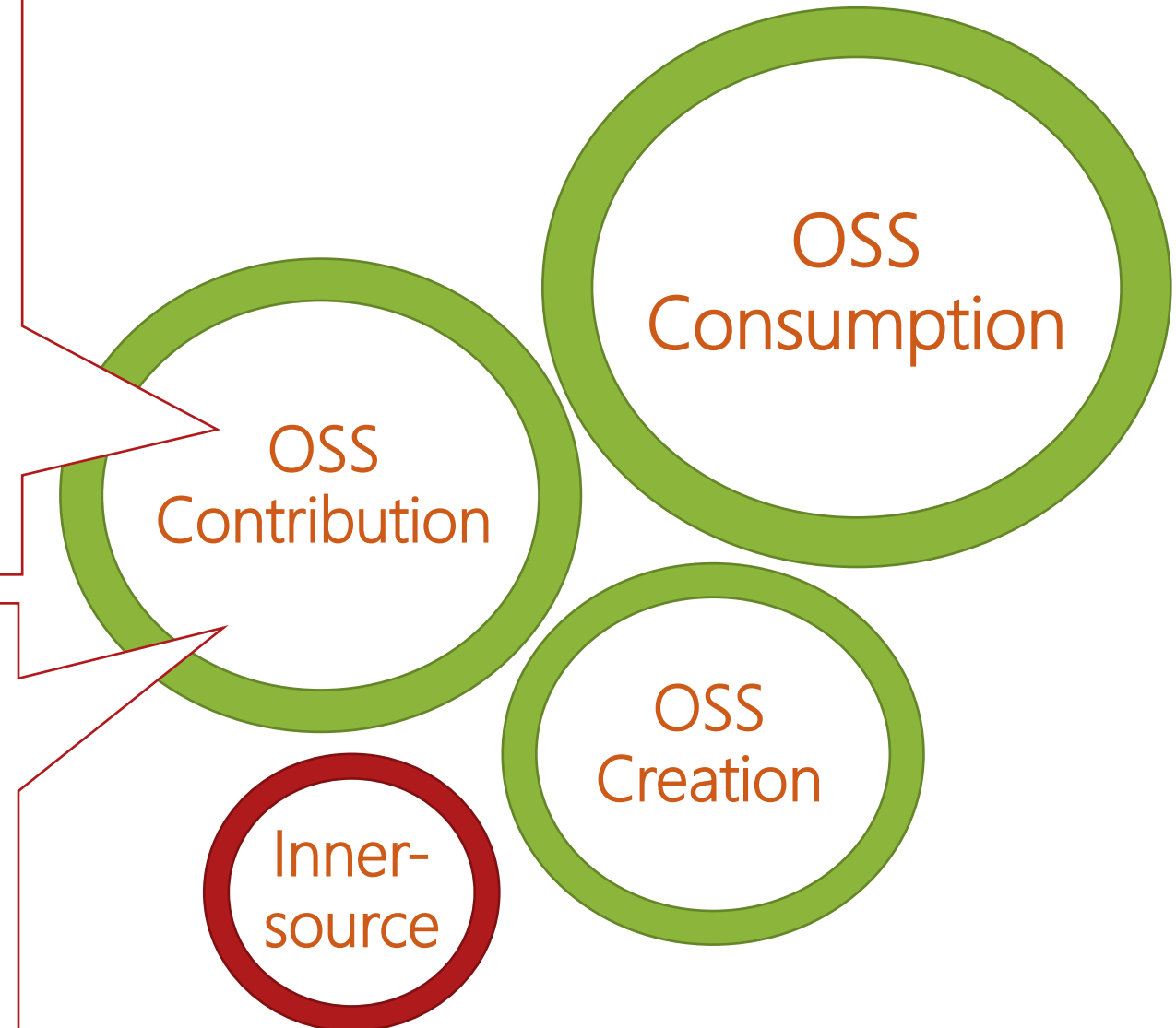
Example:

Copyright Contributors to the [name_open_source_project]
project

Copyright [year project started] - [current year], [project
founder] and the [project name] contributors

**What is a Developer Certificate of
Origin (DCO)?**

```
1 Developer Certificate of Origin
2 Version 1.1
3
4 Copyright (C) 2004, 2006 The Linux Foundation and its contributors.
5
6 Everyone is permitted to copy and distribute verbatim copies of this
7 license document, but changing it is not allowed.
8
9
10 Developer's Certificate of Origin 1.1
11
12 By making a contribution to this project, I certify that:
```



What do we do at the OSPO

Centre of knowledge of open source & innersource within Alliander;

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Open Source Project Launch Checklist

Business strategy & plan

- Determine and set goals for your project
- Create a business case for the selected proposal
-

Legal Review

- Consider the impact of open sourcing on your company's intellectual property
- Ensure full compliance with open source licenses
- ...

Technical Review

- Remove critical dependencies on non-public components
- Provide documentation and use case examples
- Remove internal comments, references to other internal code, etc.
-

Governance and Processes

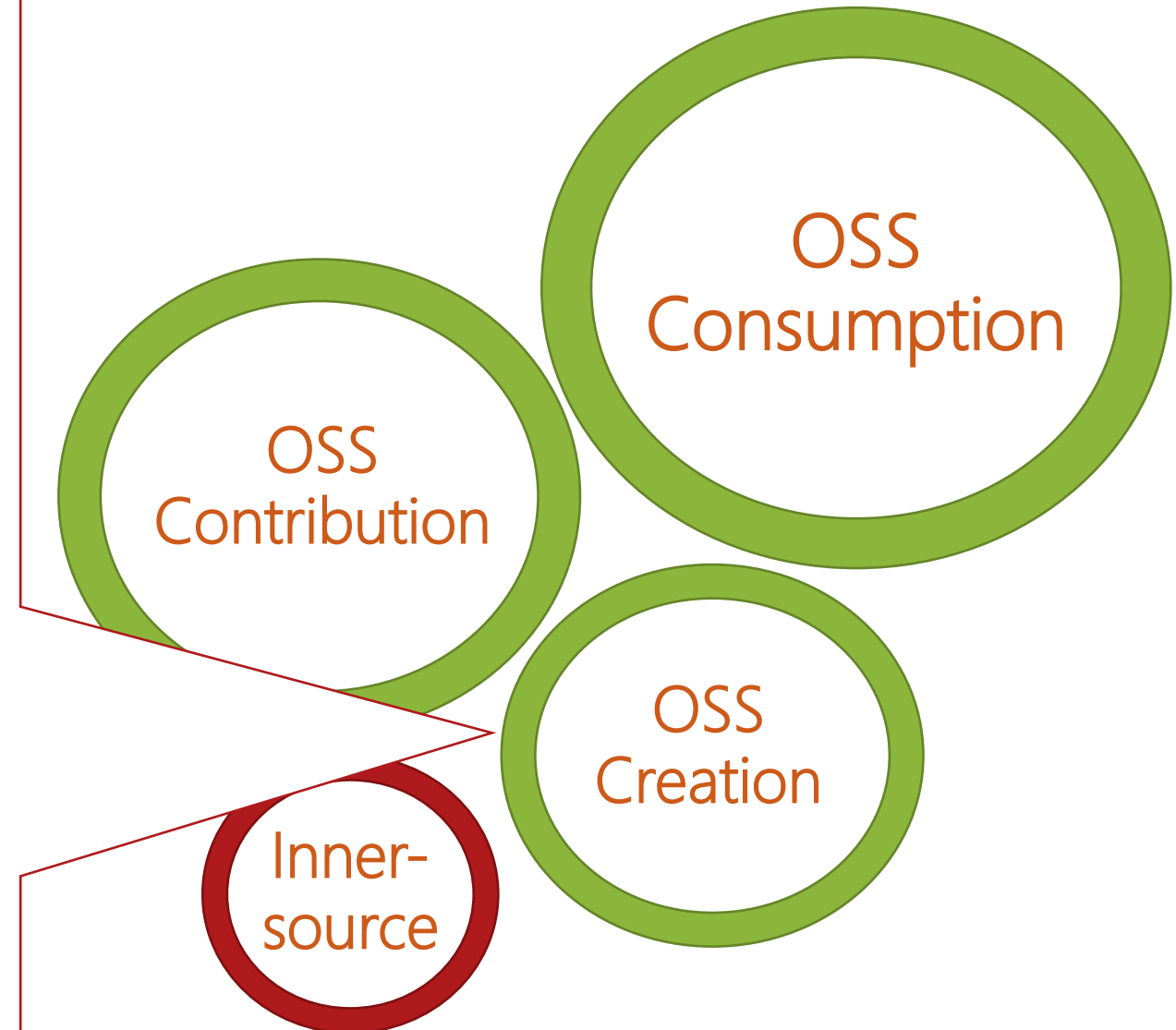
- Define project governance steps and structure
- Set up a code repository, bug reporting, and code testing infrastructure
- Create supporting Slack channels, forums, and Wikis
- ...

Branding and Marketing

- Set marketing strategy to promote an active contributor community
- ...

Launch and Maintain

- Open project and begin development work and contributions process
- Designate a community manager or community advocate
- ...



What do we do at the OSPO

Centre of knowledge of open source & innersource within Alliander;

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Alliander InnerSource Portal

Ontdek onze 94 InnerSource projecten

INTRODUCTIE + PROJECT TOEVOEGEN

Filter op programmeertaal: **Geen filter** | Sorteer op: **Activiteit** | Zoeken in 94 projecten...

Pnd Qirion Onderhoud En Storingen
Alliander/pnd-qirion-onderhoud-en-storingen
Qirion app voor onderhoud en storingen

★ 0 | ! 0 | TS

BEKIJK DIT PROJECT

Nestjs Utilities
Alliander/nestjs-utilities
Utilities package for NestJS containing frequently used functionalities within the Alliander ecosystem

★ 0 | ! 0 | TS

BEKIJK DIT PROJECT

Python Kafka Utility
Alliander/python-kafka-utility
python utility to connect with kafka

★ 0 | ! 0 | TS

BEKIJK DIT PROJECT

Vos
Alliander/vos
Verkennen Ondergrondse Storingen

★ 0 | ! 0 | TS

BEKIJK DIT PROJECT

Gaas Cgp Aad Service Token Provi...
Alliander/gaas-cgp-aad-service-token-provider-python
Azure active directory service token provider in Python.

★ 0 | ! 0 | Pyth

BEKIJK DIT PROJECT

POWER Frontend
Alliander/POWER-frontend
Angular frontend + BFF in nodeJS voor team POWER

★ 1 | ! 0 | TS

BEKIJK DIT PROJECT

Testcafe Reporter Allure
Alliander/testcafe-reporter-allure
Allure is a reporter for testcafe. It publishes visual

Digitalisering Teams
Alliander/digitalisering-teams
Custom of record updates teams, ARTs en DPs

Testcafe Reporter Slack Custom
Alliander/testcafe-reporter-slack-custom
Testcafe slack reporter plugin

OSS Contribution

OSS Consumption

OSS Creation

Inner-source

What do we do at the OSPO

Responsible for Alliander's open source strategy;



Alliander open source strategy

Think open



We prefer open source when solutions are equally suitable, regardless if we build or buy. This is because we spend public money and want to encourage co-creation to tackle business challenges.

Transform



We implement the principles of open source in the culture of Alliander through influence and education. We innovate, co-create, share and build services that give substance to our role in society as DSO and support the energy transition.

Share



We share our information (code, data, data models, roadmaps, architecture, documentation) when we expect others will gain value from it and might be willing to contribute. We enable contributions to relevant open source projects

Contribute



We participate in open source projects, ecosystems and partnerships that are relevant to us. We contribute ourselves and motivate others to contribute as well.

Secure



The code, data and data models we use and share are secure and compliant; we continuously test this.

Stay in control



We aim for as much use of open standards as this ensures interoperability which reduces the risk of vendor lock-in and prevents blocking a move to open source now and in the future. In addition we contribute to the development of open standards where this is relevant to us.

What do we do at the OSPO

Advise the organization

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- Together with the Enterprise Architecture team, advising on the strategic merit of:
 - Where to **use** open source solutions;
 - Which open source projects to **participate** in;
 - Which internal projects to **actively open source and maintain**;

Alliander Open Source usages growth

 26,069 dependencies

Alliander Open Source projects growth

WeatherProviderAPI

 DLF ENERGY
OPERATORFABRIC


 DLF ENERGY
SHAPESHIFTER

 DLF ENERGY
SUPER ADVANCED METER

 DLF ENERGY
GRID EXCHANGE FABRIC

 DLF ENERGY
CoMPAS

 DLF ENERGY
OpenSTEF

 Power Grid
Model

Starting with Open
Source Geospatial

>2019

2020

2021

2022

2023

1 OperatorFabric is project from RTE and we are a core contributor

What do we do at the OSPO

Enabling co-creation of open source software through collaboration with open source bodies;



LF Energy is an open source foundation focused on the power systems sector, hosted within The Linux Foundation. LF Energy provides a neutral, collaborative community to build the shared digital investments that will transform the world's relationship to energy.



LF Europe is an independent trusted supporter and vendor-neutral home for open source projects. We are the arena of choice for intra- and inter-regional open source and open standard collaboration in Europe, amongst public and private sectors as well as individual contributors.

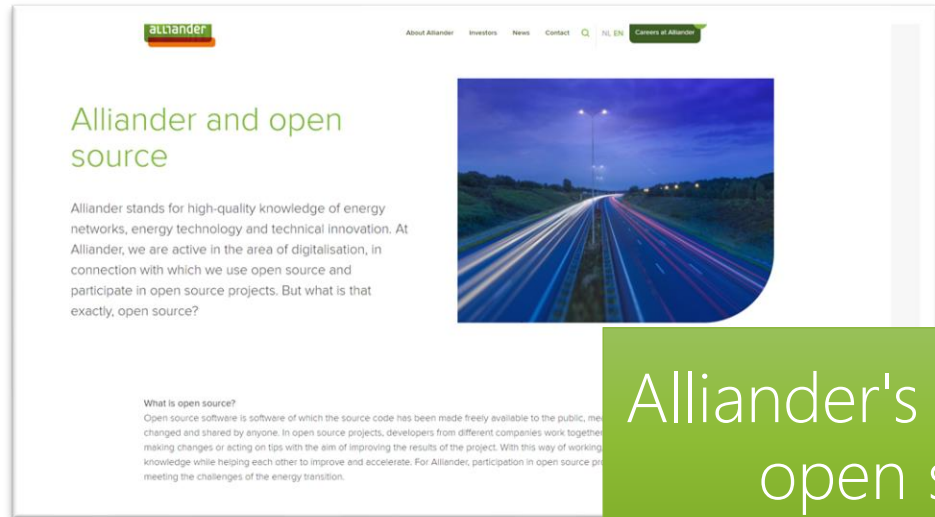


TODO is an open community of practitioners who aim to create and share knowledge, collaborate on practices, tools, and other ways to run successful and effective Open Source Program Offices or similar Open Source initiatives.

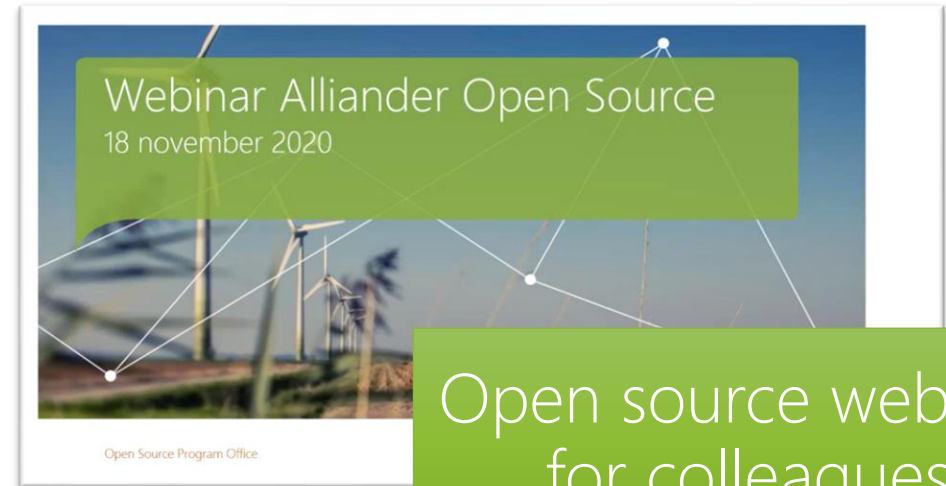
What do we do at the OSPO

Promoting the use and awareness of open source & innersource software;

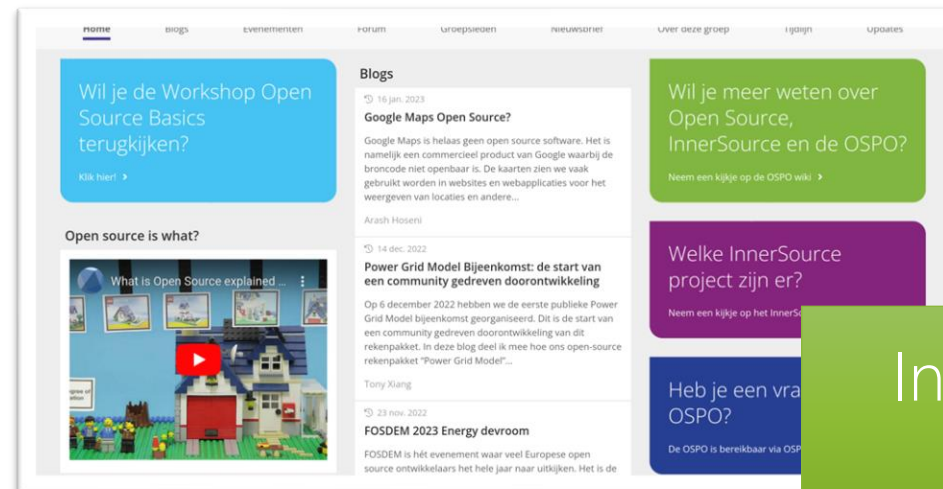
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Alliander's website on open source



Open source webinar for colleagues



Intranet page for colleagues

What do we do at the OSPO

Addressing the risks and importance of compliance within open source software;

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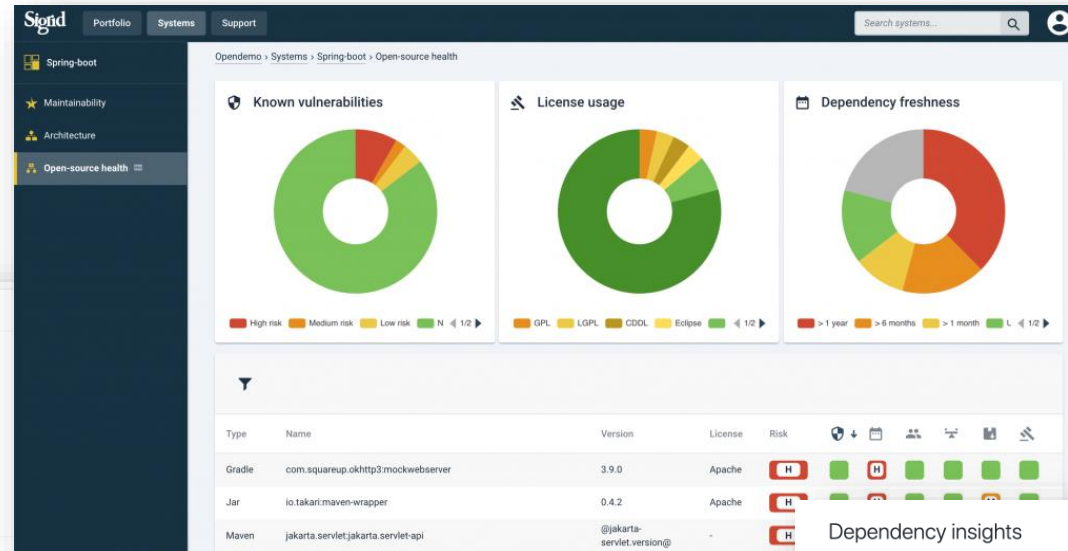
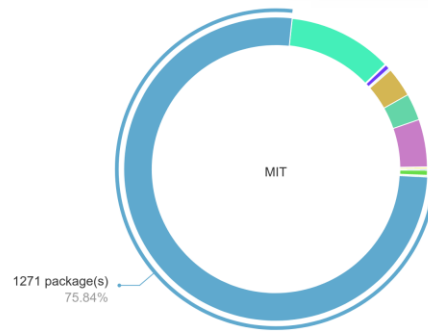


OSS Review Toolkit

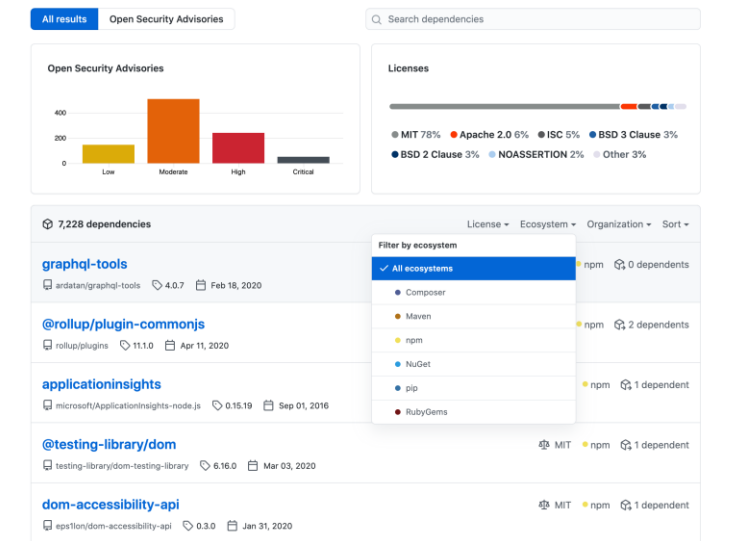
- Summary Table Tree
- Scanned revision 24b340d6951ffcd552f94a528ef94exxxxxxx of Git repository https://github.com/Alliander/XXX.git
 - Found 12 files defining 1677 unique dependencies within 2 scopes and 21 dependency levels
 - Detected 17 declared licenses
 - Completed scan with 5 unresolved issues and 4 unresolved policy violations in non-excluded source code or dependencies

Rule Violations (4) Issues (5) Declared Licenses (17)

License	Packages
0BSD	3
AFL-2.1	1
Apache-2.0	85
BSD-2-Clause	48
BSD-3-Clause	53
CC-BY-3.0	2
CC-BY-4.0	2
CC0-1.0	8
GPL-2.0-only	1
GPL-3.0-only	1
ISC	186



Dependency insights



Software Improvement Group



What do we do at the OSPO

Enabling community meetings if and where possible



Early 2020

Hackathon
OperatorFabric and GXF
with RTE France



January 2023

OSPOlogy.live



Dec 2022

Power Grid Model
meetup

What we've learned

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"Perfect is the enemy of good"

You don't need to have 20+ page business plan with very detailed multiyear roadmap

But you should have

- 'Business sponsorship' from high level management
- An enthusiast group of people who have a passion for open source
- Courage to just start

And what helps along the way is

- 'Ambassadors' in various parts of the organization
- Knowledge center with Open Source best practices, what to do when starting an Open Source project, Open Source reviewed License list, etc.;
- Communication, communication and more communication

And you should be aware

- Open source is also about culture change
- Building awareness and identity takes time – be patient!

Business sponsorship, enthusiasm and going for it!



Questions?

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Check out our website @ alliander.com/en/open-source/



Visit our Github community @ [Github.com/alliander-opensource](https://github.com/alliander-opensource)



Learn more about **DLF**ENERGY @ lfenergy.org/



Mail us @ ospo@Alliander.com

