LFE TAC Annual Review Shapeshifter

14-04-2026

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Introduction

Shapeshifter implements the Universal Smart Energy Framework for flexibility forecasting, offering, ordering, and settlement processes

USEF was founded in 2014 with the common goal of developing a smart energy system that benefits all participants

ABB
alliander
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ICT+
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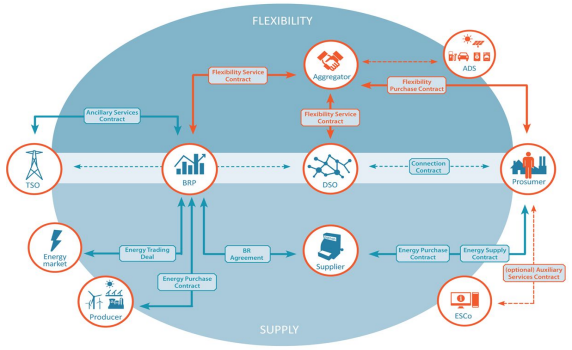
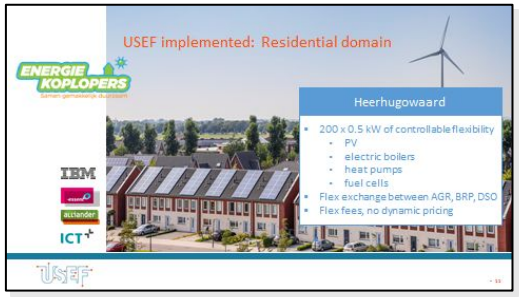
DNV

USEF has developed a framework, role model and reference implementation for trading and financial settlement of flexibility. With a central role for the AGR.

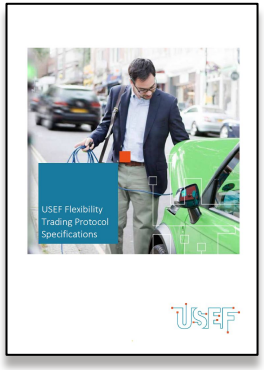


USEF has been put into practice by Dutch DSO's. And in other European countries USEF has also been used and/or implemented as a reference



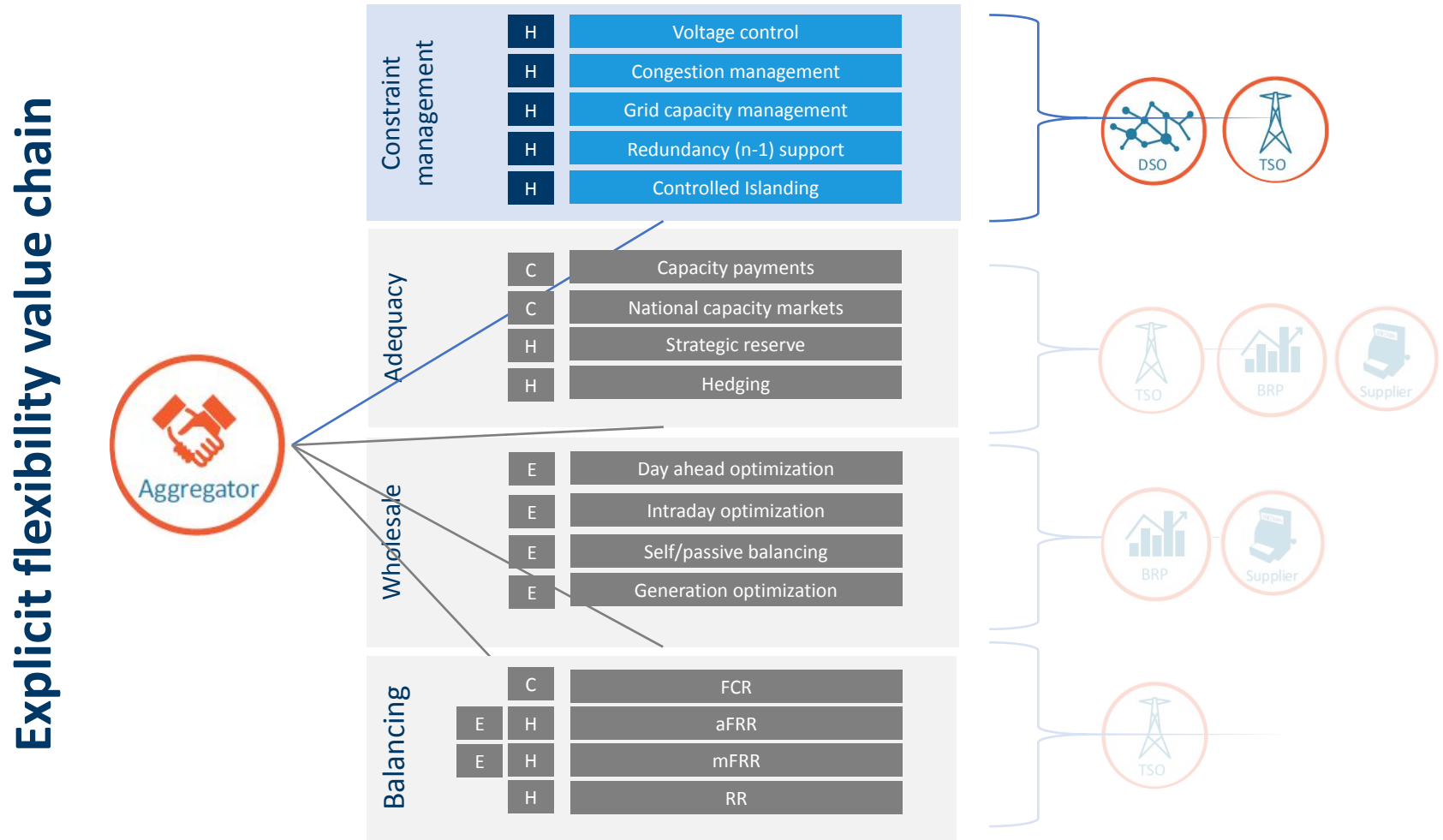
Update on framework in January 2020 based on learning experiences from implementations and in collaboration with DSO's and aggregators.

USEF Flex Trading Protocol (UFTP) is a subset of USEF and specifically aimed at flexible trading between the Aggregator and DSO or TSO.



Introduction

Shapeshifter facilitates the constraint management value chain



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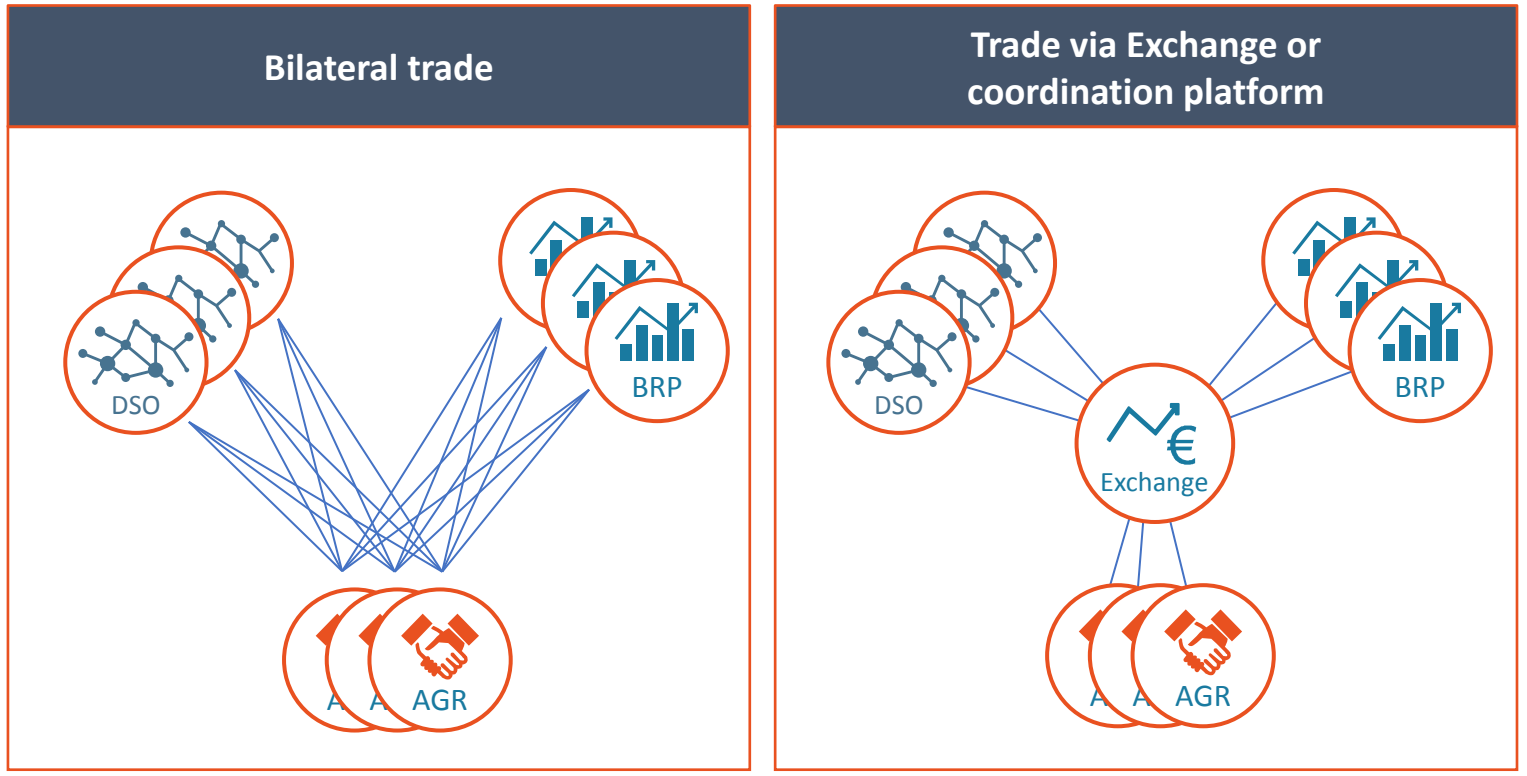
Shapeshifter facilitates the constraint management value chain



Shapeshifter has been implemented and used for bilateral trade between DSO and AGR and for trade via a coordination platform

Use cases

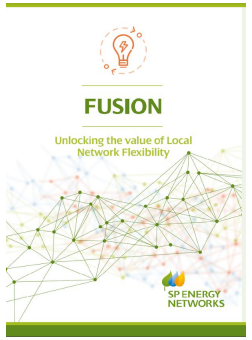
Shapeshifter currently has an active implementation by GOPACS in The Netherlands

FUSION – implementation Shapeshifter

Shapeshifter was implemented in the UK for congestion management in a demonstration project.

This resulted, among other things, in the change request to support verification of delivery based on metering data from sub-meters.

This pilot showcase implementation project ended in the beginning 2024. One of the involved parties is applying for funding for a new project



GOPACS – implementation Shapeshifter

The Shapeshifter protocol is used to activate capacity limit contracts in the Netherlands

Shapeshifter currently supports activation of long-term capacity limit contracts. Starting with the ‘trade phase’ of Shapeshifter

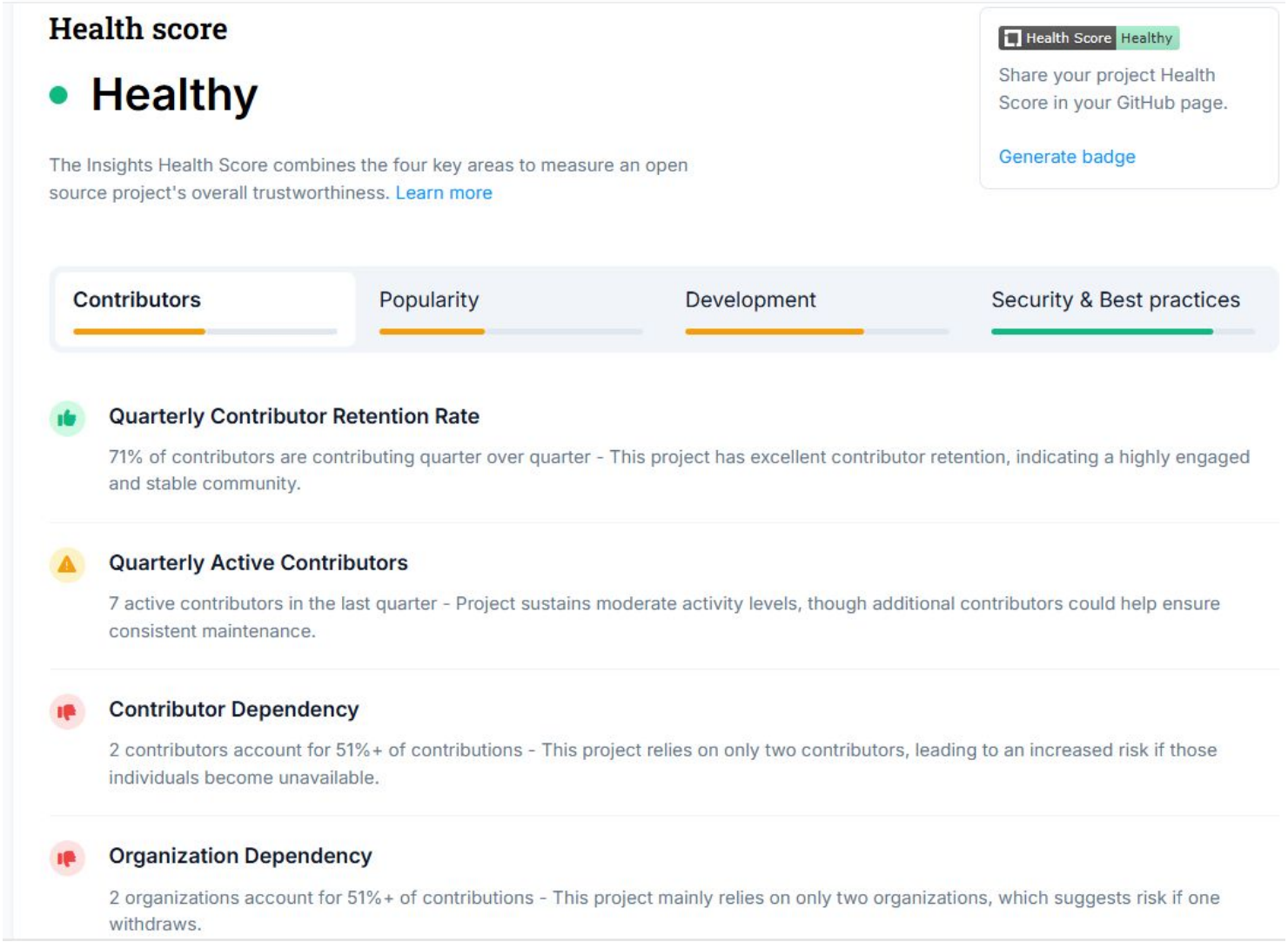
This resulted in revision of the Shapeshifter Java library and the release of a Python library.

Shapeshifter in 2025-2026

- Quiet year, continuing business as usual
- More companies using the GOPACS implementation of the protocol, with increasing scope
- TSC participating organizations is stable, no new participants
- Physical strategy and way forward session, leading to new ideas
- No big new changes to the protocol

Project scores healthy

However has a serious dependency on only a few organizations and active participants



Maintaining TSC and project growth

Decrease in commits due to no big updates to the protocol in the past year

Maintaining TSC and project growth

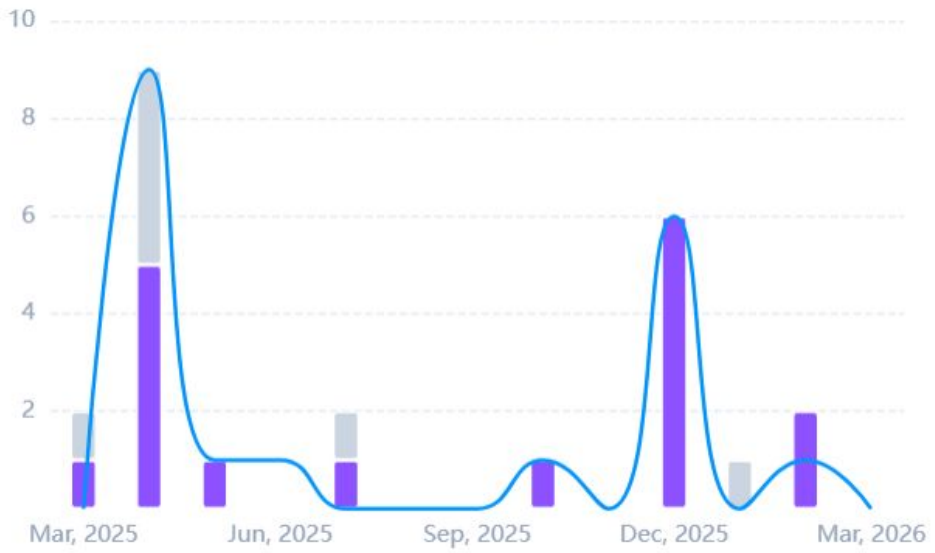
Decrease in pull requests due to no big updates to the protocol in the past year

Pull requests

Comparison between opened and merged (or closed) pull requests during the selected period. Learn more

Total pull requests performed

19 42.4% (-14)
vs. 33 last period



This project has strong pull request activity, with a healthy influx of contributions indicating robust ongoing improvements.

Maintaining contributor level

Milestones and roadmap 2026-2027

- New users & community building
  - We will again expect more users of the protocol in the Netherlands, mainly from Congestion Service Providers (CSPs)
  - Increase TSC participation from Dutch grid operators
- Work on new ideas following from the strategy session, e.g.
  - Mapping of the Shapeshifter protocol to CIM model and NBEA, specify in what cases to choose Shapeshifter vs. other open source alternatives (such as OpenADR)
  - Work on ideas to facilitate easier implementation and onboarding
  - Investigate protocol fit with new use cases for congestion management in The Netherlands

LFE Early Adoption Stage Requirements (1/2)

- Demonstrate growth in the project's community, including
  - Growth in the number of commits to the project, number of project committers, and organizational diversity of contributions and committers.
  - Production or planned production use of the project by at least two independent end users which, in the TAC's judgment, are of adequate quality and scope.
- Technical Governance of the project is operational, as measured by:
  - A Technical Steering Committee with at least 5 members and a chairperson elected by the members, holding regular open meetings.
  - Achievement of the OpenSSF Best Practice badge at the 'Silver' Level

LFE Early Adoption Stage Requirements (2/2)

- Development of a growth plan, to be done in conjunction with their project mentor(s) at the TAC. This plan should address the following points:
  - Since these metrics can vary significantly depending on the type, scope, and size of a project, the TAC has final judgment over the level of activity that is adequate to meet these criteria.
  - Release plans for the next 18 months.
  - Target end-users.
  - Identification of any regulatory or standards body requirements for deployment, and plans for implementation.
  - Plans for growth of project contributors and committers to support the growth plan.
  - Identification of any infrastructure resources needed to fulfill the growth plan.
- Presentation to the TAC of the project's growth, technical governance, and growth plan.
- Receive the affirmative majority vote of the TAC and Governing Board

Proposal: stay in incubator stage for 2026

- Well on our way towards Early Adoption
- Use 2026 to professionalize and work on involvement
- Aim to move to Early adoption stage from 2027 onwards