Ministerie van Volksgezondheid,
Welzijn en Sport

Procuring open ecosystems

Maurice Hendriks – Open source expert

Content

- Introduction
- About open ecosystems
- The way we relate to market
- What the Ministry of Health, Welfare and Sports does

Introduction

Knowledge is power

Open ecosystems
An ode to the bike

1. Production, sales, and maintenance are decoupled.
2. You can choose between various parts from different vendors and quality.
3. Easy to vary on; thickness of the tires differentiates a racing bike from a mountain bike.
4. Anchored by policy.
5. It’s almost impossible to work proprietary inside an open ecosystem.

Open ecosystems

Open access

Information about standards, processes, used technologies is freely available without limitations.

Interoperability

Interchangability of components is guaranteed due to the use of standards.

Cooperation

By working together, problems can be more easily solved and innovation is stimulated.

The way we relate to market

Purchase terms

Vendor lock-in

Policy

Ministerie van Volksgezondheid,
Welzijn en Sport

Purchase terms

For the English translation of the terms, GenAI is used.

On intellectual property in procurement

- **GIBIT 2023, artikel 20.4 Intellectuele eigendom**
  De rechten van intellectuele eigendom op Maatwerkprogrammatuur berusten bij Opdrachtgever. Deze rechten worden hierbij overgedragen door Leverancier aan Opdrachtgever, die deze overdracht hierbij aanvaardt. Deze overdracht ziet op alle huidige en toekomstige rechten in de meest ruime zin van het woord. [...] Leverancier zal alle broncodes van de betreffende Maatwerkprogrammatuur aan Opdrachtgever ter beschikking stellen. [...]

- **GIBIT 2023, article 20.4 Intellectual property rights**
  The intellectual property rights to Custom Software shall rest with the Client. These rights are hereby transferred by the Supplier to the Client, who hereby accepts this transfer. This transfer applies to all current and future rights in the broadest sense of the term. [...] The Supplier shall make all source codes of the relevant Custom Software available to the Client. [...]

On intellectual property in procurement

- **ARBIT 2022, artikel 8.1a Intellectuele eigendomsrechten**
  Alle intellectuele eigendomsrechten [...] berusten bij Opdrachtgever voor zover het betreft een Prestatie die specifiek voor Opdrachtgever is of wordt ontworpen of vervaardigd en/of onder leiding of toezicht van Opdrachtgever ARBIT-2022 11/37 dan wel aan de hand van diens instructies of ontwerpen is of wordt gerealiseerd. [...]

- **ARBIT 2022, article 8.1a Intellectual property rights**
  All intellectual property rights [...] shall rest with the Client insofar as the Deliverable is specifically designed or manufactured for the Client and/or is or will be realized under the direction or supervision of the Client ARBIT-2022 11/37 or based on the Client’s instructions or designs. [...]

On intellectual property in procurement

- **AIVG 2022, article 17.4 Intellectual property and other (similar) rights**
  [...] alle intellectuele eigendomsrechten welke ontstaan bij de ontwikkeling van een Prestatie, specifiek in opdracht van Opdrachtgever, bij Opdrachtgever, tenzij anders door Partijen Schriftelijk overgekomen. De rechten worden, voor zover deze bij Leverancier (zullen) berusten, door ondertekening van een Overeenkomst door Leverancier of door Schriftelijke aanvaarding van de Offerte door Opdrachtgever reeds nu voor alsdan aan Opdrachtgever overgedragen [...]

- **AIVG 2022, article 17.4 Intellectual property and other (similar) rights**
  [...] all intellectual property rights arising from the development of a Deliverable, specifically commissioned by the Client, shall rest with the Client, unless otherwise agreed in writing by the Parties. The rights that (will) reside with the Supplier are hereby transferred to the Client upon signing of an Agreement by the Supplier or upon written acceptance of the Offer by the Client, effective immediately. [...]

On intellectual property in procurement

- **Algemeen inkoopvoorwaarden UU 2024, artikel 16 Intellectueel eigendomsrechten**
  Goederen en werkwijzen die Leverancier in samenwerking met of in opdracht van de Universiteit Utrecht heeft ontwikkeld, komen uitsluitend aan de Universiteit Utrecht toe en mogen niet anders dan met voorafgaande schriftelijke toestemming van de Universiteit Utrecht aan derden ter beschikking worden gesteld.

- **General procurement terms UU 2024, article 16 Intellectual property rights**
  Goods and methods developed by the Supplier in cooperation with or on behalf of Utrecht University shall exclusively belong to Utrecht University and may not be made available to third parties without the prior written consent of Utrecht University.

Why do we want ownership?

The warehouse

- We don’t know what and how many sourcecodes governments own.
- We don’t have processes in place on cataloging these source codes
- Source code that could’ve been reused but now isn’t.

Source code as capital

- Source code is recorded knowledge.
- Knowledge has economic value.
  - A €1 billion investment in open source, resulted in around €65 to €95 billion returns.
  - 10% extra investments in open source could let the GDP grow by 0,4 to 0,6%-point yearly.
  - Around 70 to 90% of all software uses open source.
  - Without open source, software development would be 3,5 times as expensive.

Study about the impact of open source software and hardware on technological independence, competitiveness and innovation in the EU economy

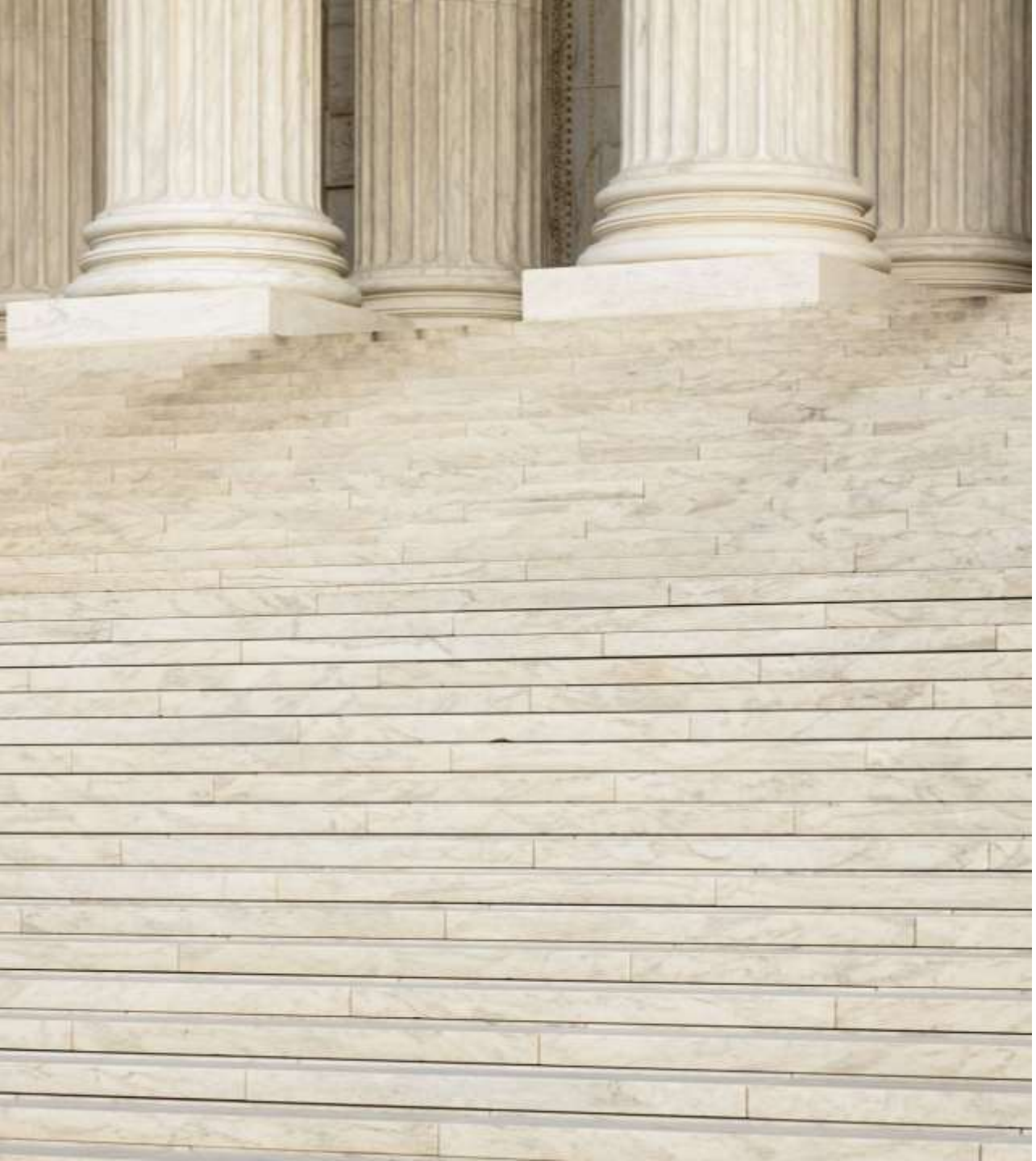
Open Source Software: The $9 Trillion Resource Companies Take for Granted

The copyright act

- Creative work is automatically protected by the copyright, including source code.
- The creator automatically ownes the intellectual property rights.
- Others may not redistribute, copy and/or modify the works.
- You can issue licenses to users to allow them to use the creative work.

Open source license

- Open source licenses are standardized contracts.
- They give third-parties almost al rights on the source code.
- Third-parties may study, change and distribute the source code with others.
- The creator is, however, exempted from liability for misuse.
- The creator doesn’t know where and how the source code will be used.



The copyright act and government

- Governments are treated differently.
- Publicly made available works can, without explicit terms, be freely used and copied without it being seen as a copyright infringement (The copyright act, Art. 15b). However, the government keeps the intellectual property rights.
- An open source license does not expand the right of use, but rather imposes a (very limited) restriction.

No rights, but knowledge

Advantages

For public clients

- Fulfills their legal obligations to be **transparant** and **accountable**.
- It significantly **prevents remedial work**.
- It **prevents vendor lock-in** in custom tenders due to the knowledge gap other suppliers normally develop.
- Clients are not stuck with **software ownership**.
- Contractors are stimulated to develop with **reuse in mind**.

For contractors

- They have the **freedom to reuse** the works on **other commercial contexts**.
- They can benefit from the works done by others and develop a **minimal knowledge gap**.
- They can more easiliy built a **portfolio** not only of the finished product but also with **insight in the quality of previous developed technology.**

Prefer open source over IP-rights

	IP-rights	Open source
• Clients are not prohibited in further developing the software	✔	✔
• Others can reuse the software		✔
• Doesn’t require legally signed documents		✔
• The contractor can take responsibility of publishing		✔
• Woo en Who-compliant-by-default		✔
• Stimulates reuse and therefor modular development of code		✔
• Anyone can freely exploit the software		✔

Ministerie van Volksgezondheid,
Welzijn en Sport

Producurement practice stimulates vendor-lockin

Unnessecary merging

- Procurements cannot be unnessecarily split to avoid European Procurement procedures.
- Procurements can also not be unnessecarily merged.
- However, procurements are often made big.
- As much services must be deliverd by a single supplier.
- As much functionalities as possible combined in a omnisuite.
- Services only the biggest ICT-companies can deliver.
- The government gets the market it demands.

Free products and procurement

- Free products are not covered by procurement law.
- You can freely test and implement them.
- You can procure additional services specifically for the free software.
- But, you must explain what this specifically free software best fits your needs.
  - Which can also lie in a best fit with a mission and vision.

Custom procurement

- A supplier develops to the best of their knowledge and skills.
- Other suppliers develop a knowledge gap.
- The more open the customization, the smaller the gap.

- Other suppliers don’t want to touch the works of others.

In case of equal suitability, Open Source software is preferred when developing a service

The rules of open ecosystems

- Production, ‘sales’ and maintaince is split.
- Products are modulair.
- Do one thing, and do it well
  and make it easily reusable.
- Products are governed by foundations,
  not ICT-companies.
- Deze foundation only offer limited
  services.
- Various partners provide bits of service
  around it.
- In case of bankruptcy, others can easily
  take over.

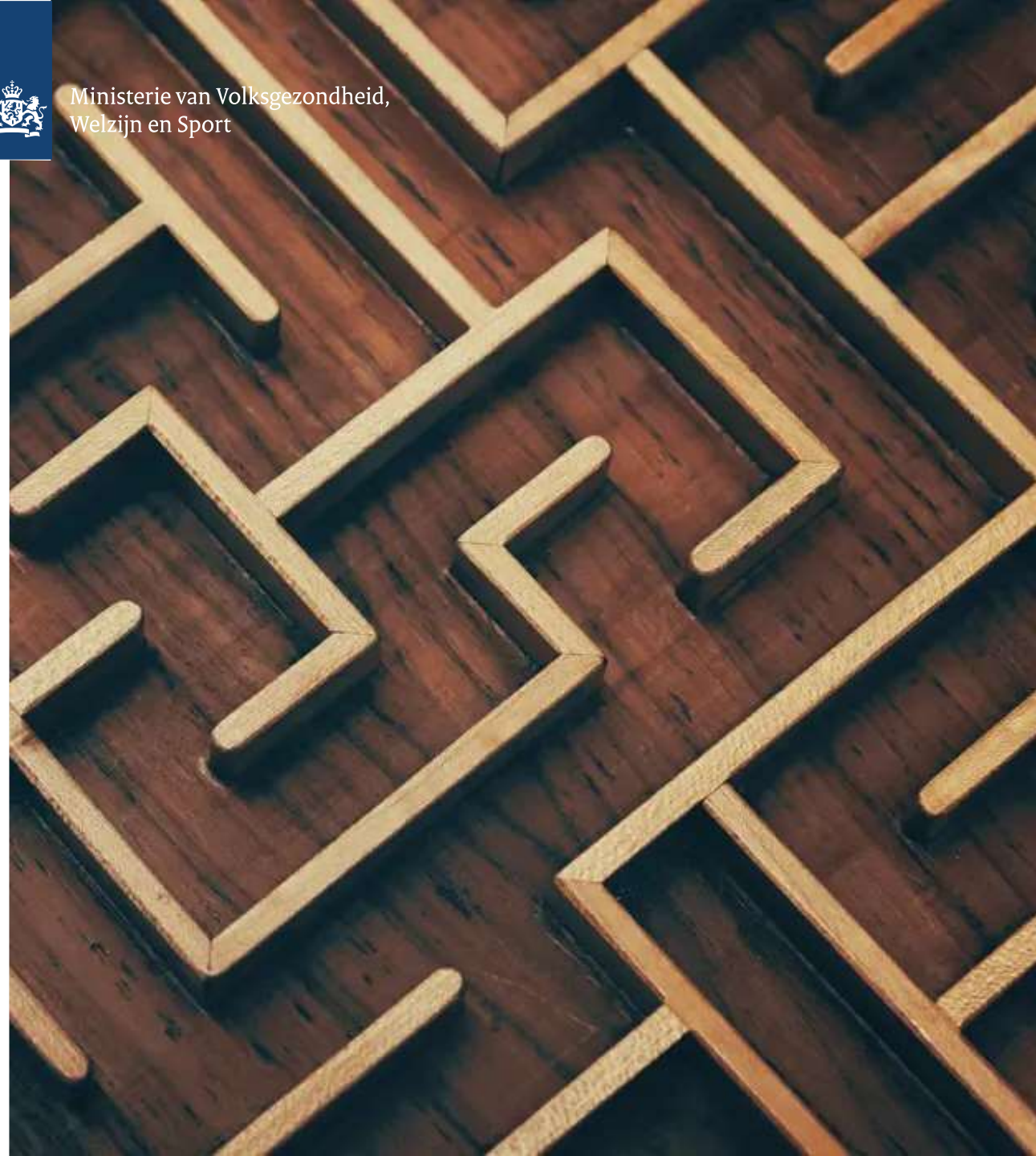
The assumption is that **everyone benefits from the same supports**. This is equal treatment.

Everyone gets the supports they need (this is the concept of "affirmative action"), thus producing equity.

All 3 can see the game without supports or accommodations because **the cause(s) of the inequity was addressed**. The systemic barrier has been removed.

Digitizable policy

Ministerie van Volksgezondheid,
Welzijn en Sport



Digitale technology for policy execution

- Digital technology is important for the development and execution of policy.
- By working data-driven more policy is being substantiated by metrics.
- Data that’s ofted gathered and processed by digital technology.
- Execution of policy often with the use of case management systems
- Policy implementation involves handling case files in a case management system or providing full support in calculating and disbursing personal budgets (PGBs)

Diagnose Behandel Combinatie (DBC)

- Healthcare professionals declare treatments through DBC’s.
- It’s the basis for healthcare bills.
- There are around 4500 DBC’s.

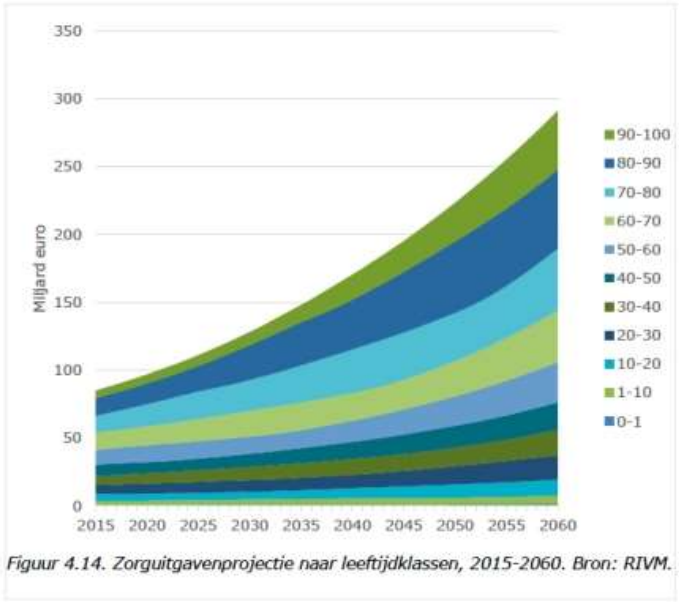
- The Dutch Healthcare Authority manages the DBC’s.
- They are not available in a machine processable format.
- Healthcare-ICT-suppliers do a lot of manual labor to synchronise them.
- It makes the Dutch healthcare market less interesting for international parties.

Ministerie van Volksgezondheid,
Welzijn en Sport

Let’s go

Setting the scene – Dutch healthcare issues

Rising healthcare costs



Figuur 4.14. Zorguitgavenprojectie naar leeftijdklassen, 2015-2060. Bron: RIVM.

Shortage in staf

Administrative burden

Afbeelding van FMS

National Vision and Strategy for the Health Information System (NVS)

Dream

Integral approach

Think

Network organised

Do

Interoperability organised

The objectives of the National Strategy for the Health Information System

The future for the Netherlands in 2035

1 Data availability has been realized for use in care, health, and prevention.

2 Data recording is more efficient for minimal administrative burden.

3 Data are situationally available through a widely used nationwide network of infrastructures and generic functions.

4 Data solidarity has been achieved with a focus on trust.

5 Citizens and healthcare providers can fully participate in the health information system.

6 The governance of the health information system is organized.

7 The health information system extends across the healthcare domain, the social domain, and the public health domain

8 The openness of systems is guaranteed, and a level playing field in the healthcare IT market has been established

The Health Information System

- The health information system consists of many elements that are interconnected and interact with each other. The National vision and strategy for the health information system provides the comprehensive framework for this.
- The Ministry of Health, Welfare and Sport (VWS) takes the lead and ensures a national approach. However, we can only achieve this if we collaborate at various levels, both nationally and regionally. A wide range of healthcare providers, insurers, citizens, regional collaboration organizations, knowledge centers, ICT suppliers, and other providers of digital health services must work together.

The healthcare-ICT-market

- Well-functioning healthcare ICT markets are a necessary condition for a sustainable health information system. Digitalization and data exchange in healthcare offer opportunities to organize care in a different and better way. This leads to increased effectiveness and efficiency in collaboration within and between healthcare institutions. Additionally, well-functioning ICT improves the provision of care to patients and their loved ones.
- Healthcare ICT markets are particularly vulnerable to the emergence and strengthening of market power due to certain characteristics. For example, there may be necessary, specific investments in a health information system to enter relatively small, sometimes saturated markets that only allow space for a limited number of players. Therefore, the threat of new entrants with sufficient scale is small.

Leidraad goedwerkende markten voor zorg ICT

Open healthcare-ICT-ecosystem

- The Ministry of Health, Welfare and Sport (VWS) is working hard on the development of the health information system (HIS). For the development of certain components, VWS chooses to use open-source procurement. The government has a legal obligation to work with open source. This obligation does not apply to the healthcare sector. Nevertheless, VWS considers it important that a high ambition for opensourceworking is applied within the HIS. With this, VWS demonstrates how open source is used as a strategic policy instrument within public sector.
- The ambition is to develop the HIS more from an open ecosystem perspective. This means that the products and knowledge are openly accessible, interoperable, and transparent, enabling collaboration. This is seen as a way to promote more efficient and innovative healthcare.

The Personal Digital Healthcare Environment

What is a PDHE?

- A personal digital healthcare enviroment (PDHE) is an app or website where you can keep lifelong information about your own health and actively engage in improving your health. For example, you can collect and manage your medical data. This way, you maintain control over your data: from treatments to lab results, medication use, and vaccinations.
- The MedMij Afsprakenstelsel helps ensure that personal, sensitive, and confidential health data can be exchanged safely and user-friendly between the PDHE and providers. The exchange takes place in both directions; individuals can collect and share data.

The procurement

- Three PDHE-providers were asked to:
  - furhter improve the MedMij-stelsel.
  - develop reference implementation of the new functionalities inside their own PDHE.
- This was a confidential European open-house procurement.
- Market value is € 15,- miljoen.

Challenges

- **Market disruption**
  - Three of the 13 PDHE-suppliers are payed for improving their own PDHE.
  - The other 10 PDHE-supplisers are at risk becoming less attractive for end-users.

  Vendor-lockin and monopolies
  - The healthcare market is a free market.
  - There is not much competition.
- **Transparant, traceable and reusable digitalization**
  - Government has an obligation to make an effort.
  - VWS finances and underlines this for the healthcare sector as well.
- **The solution: Open source procurement!**

The targets

- **Do’s**
  - Don’t disproportionately disadvantage the other 10 PDHE-suppliers.
  - Keep the PDHE-market open for other interested parties.
- **Don’t**
  - Stimulating or directing cooperation, with each other of other interested parties.

- Make sure other PDHE-supplier are capable to implement new knowledge as soon as possible.
- To allow this, code and documentation needs to be openly available.
- The ecosystem needs to be open and stay open for other interesting parties.

The results

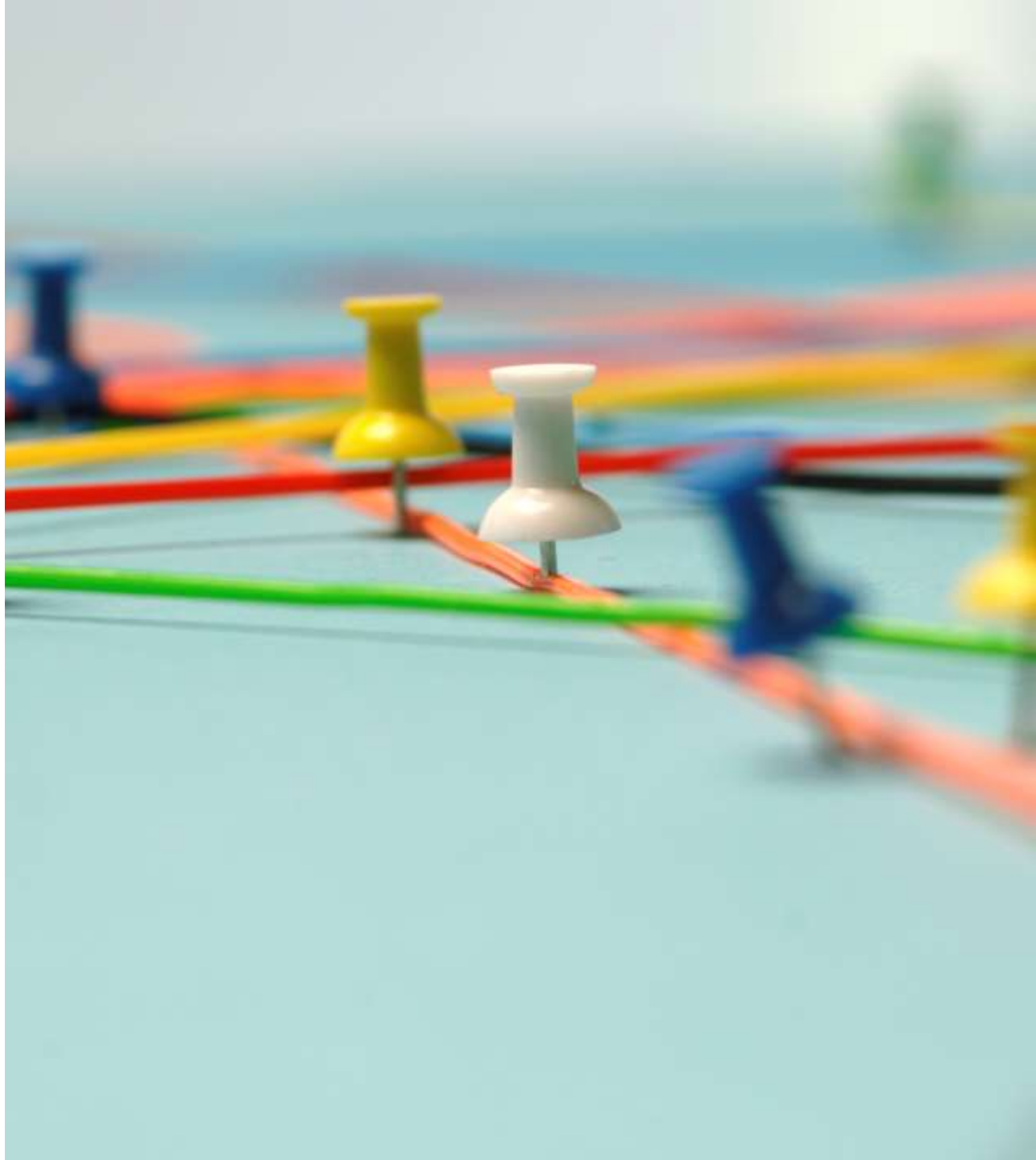
Suppliers

- Are open for open source development.
- Ask for clear guideliness with transparant expectations and demands.
- Already work the open source way internally.
- Mainly the smaller and midsize ICT-companies are interested.
- Support the public values of VWS.

Contractors

- Support the values open source can support.
- Ask for supporting instrument that can guide them.

Landelijke dekkend network - CumuluZ



About CumuluZ

- CumuluZ was founded to improve data availability in the healthcare sector — so that healthcare providers, patients, clients, citizens, and researchers have access to the right information at the right time.
- Within CumuluZ, various healthcare organizations join forces to enable data exchange across the entire healthcare chain. The CumuluZ Healthcare Data Foundation (“Stichting CumuluZ Zorgdata”) was established by: NFU (University medical centers), NVZ (General and specialty hospitals and rehabilitation centers), ActiZ (elderly care), LHV (general practitioners), InEen (Primary care), and NHG (Dutch College of General Practitioners), with the support of Santeon, mProve, and the Dutch Mental Health Association (de Nederlandse GGZ). https://www.cumuluz.org/

About the Landelijk dekkend netwerk

- A nationwide network of infrastructures that connects healthcare providers for the exchange and sharing of health data. You can think of it as the “asphalt” of a road network — the essential foundation that allows data to travel from point A to point B.

- VWS has granted CumuluZ a subsidy of €11 million.
- CumuluZ is developing part of the National Health Data Network.
- All components must be built under the AGPLv3 open-source license.
- The AGPLv3 license requires that all source code within a solution must be fully open source.

Open source ambitieladder in maatwerk aanbesteding of opdracht

Introductie

Met deze ambitieladder krijgen aanbestedende diensten handvatten om digitalisering, vanuit allerlei waardegedreven doelen, als maatwerk te laten ontwikkelen. Het aanbesteden van dienstverlening of open source standaard software is buiten scope van dit document. Daar wordt in andere documenten aan gewerkt.

Binnen aanbesteding spelen een veelheid aan niet-functionele eisen een rol. Daarbinnen kan je grofweg een onderscheid maken tussen harde compliance eisen en waardegedreven eisen. Bij harde compliance eisen voldoe je duidelijk wel of niet. Denk daarbij aan open standaarden of informatiebeveiliging. Bij open source gaat het net als bij social return of duurzaamheid om waardegedreven eisen. Er is geen duidelijk normenkader waaraan je moet voldoen zoals de Baseline Informatiebeveiliging Overheid of de verschillende verplichtende lijsten van Forum Standaardisatie dat wel zijn voor hun eigen onderdeel. Wet- en regelgeving geeft wel een inspanningsverplichtingen voor de toepassing van open source als het middel om de transparantie en herbruikbaarheid van digitalisering mee te vergroten. Open source kan alleen aan meer doelen bijdragen. Denk ook aan leveranciersonafhankelijkheid, soevereiniteit, navolgbaarheid, verkleinen van marktmacht.

Er is dus geen eenduidige set aan eisen neer te leggen waaraan alle aanbestedingen moeten voldoen. Bij open source vraagt dit om bewuste overweging langs de verschillende doelen die je met open source in je aanbesteding zou willen bereiken en in welke mate. Uit die maat blijkt de uiteindelijk ambitie. In dit document zijn die doelen uitgesplitst naar de 4 voordelen van opensourcewerken.

Dat neemt overigens niet weg dat je het hier beschreven laagste ambitieniveau kan zien als een minimale norm. De minimale eisen om te voldoen aan de inspanningsverplichting uit de Wet open overheid en de Wet hergebruik overheidsinformatie.

> 💡 **Aanbesteding, opdracht of vacature?**
>
> Ondanks dat de teksten zijn geschreven met een aanbesteding in het achterhoofd kunnen ze ook gelezen worden als eisen die je stelt aan inhuurkrachten, in vacatures of je ontwikkelteam. Zo wordt de kennis van git, SBOM-standaarden, open source licenties in deze ambitieladder sowieso veronderstelt. Partijen of personen die in staat zijn een hoger ambitieniveau te bedienen kunnen dan de voorkeur genieten boven andere partijen of personen.

> 💡 **Eigen menu samenstellen?**
>
> In dit document worden suggesties gedaan die je kunt hergebruiken in een aanbesteding. Het zijn expliciet suggesties en geen wetmatigheden. Voel de vrijheid om selectief in deze suggesties te shoppen door bepaalde suggesties te negeren, anders te formuleren, ze anders te combineren of wat voor jouw specifieke situatie het beste werkt.

Questions?