

Delft-FEWS NL Gebruikersdag 2021

Delft-FEWS Vision 2025 update & Roadmap 2021 plans

Gerben Boot

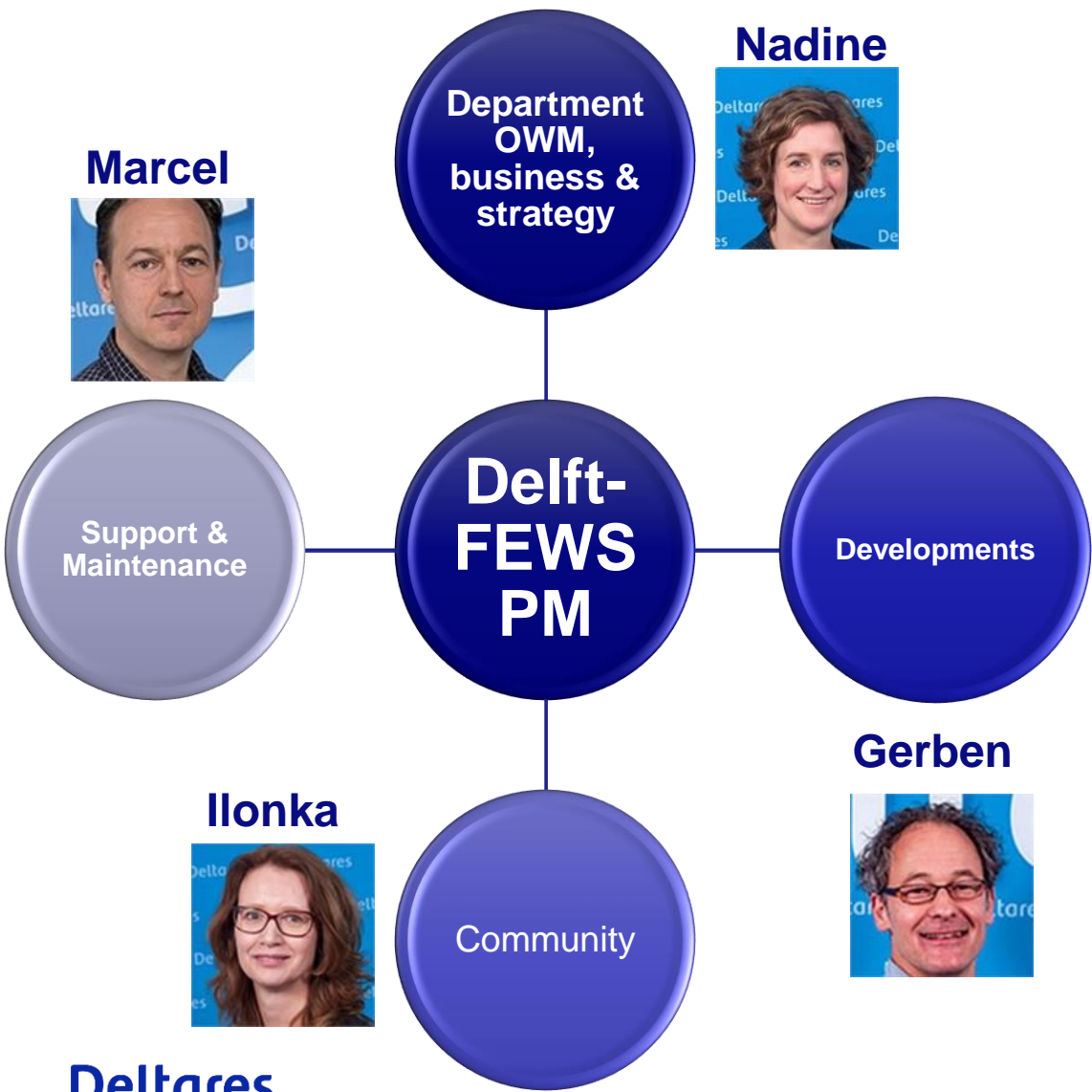
Delft-FEWS Product Manager - Developments

Deltares

11th of May 2021



Introduction...



Contents



QUICK RECAP



STATUS UPDATE

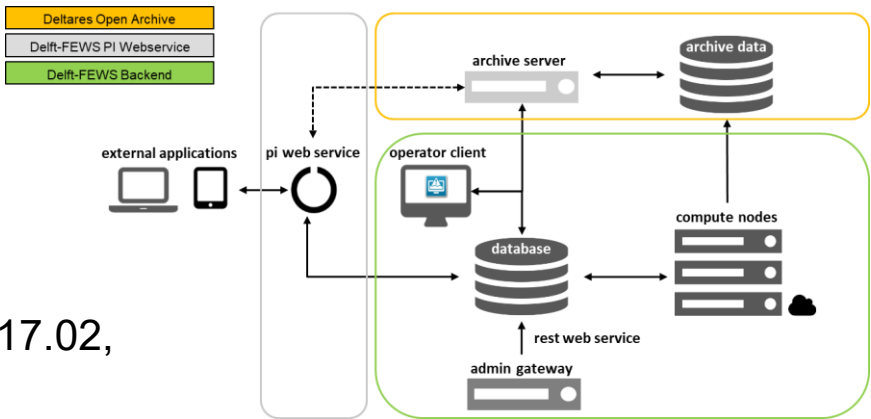


OUTLOOK



Delft-FEWS Vision 2025: looking back...

- End of 2019: finalized **Roadmaps 2020** on:
 - Backends
 - Open Archive
 - FEWS Web Services
 - Community funding: major ‘under the hood’ improvements in 2017.02, 2018.02 and 2019.02
- Defined a new **Delft-FEWS Vision 2025** based on:
 - Scenario Analysis on the “Future of Hydrological Forecasting”
 - Expert sessions within Deltares
 - Interaction with the Delft-FEWS user community
 - Sessions with the Delft-FEWS International Community Strategy Board
 - Results of “Roadmaps 2020”



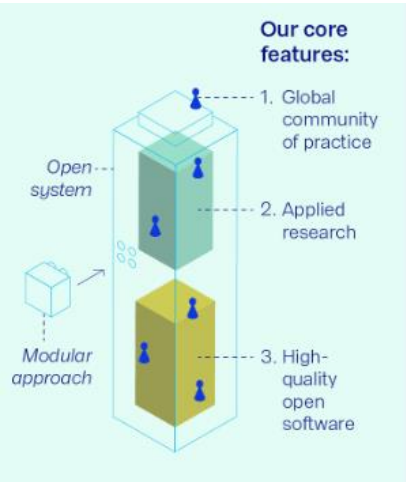
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Delft-FEWS Vision 2025: visualized...

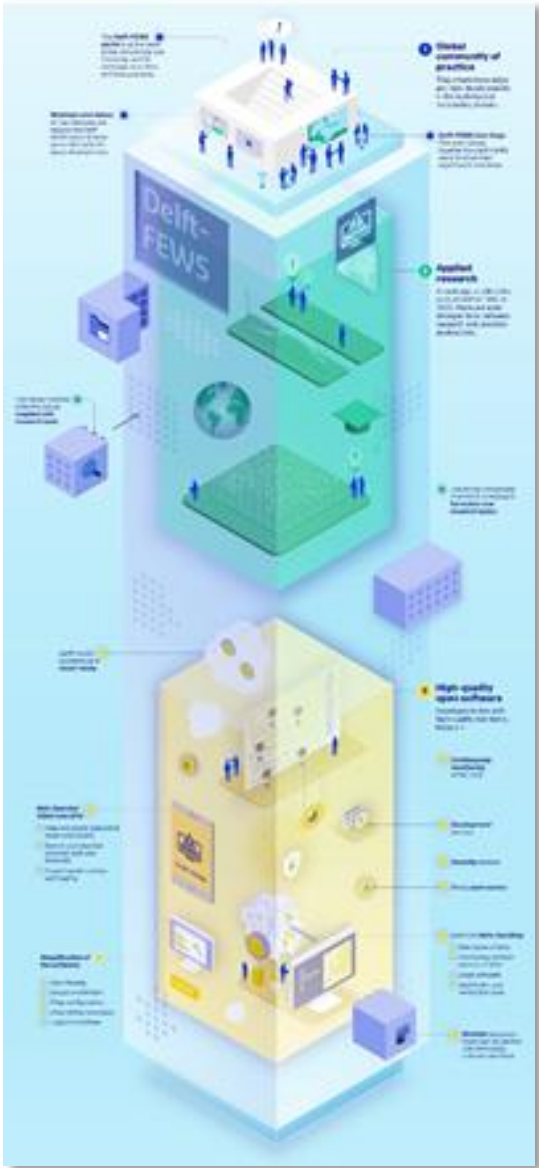
- Delft-FEWS Vision 2025 **core features**

- 1** Global Community of Practice
- 2** Applied Research
- 3** High quality open software



- 1**
- 2**
- 3**

- Show and tell...story, presentations and infographic
 - Delft-FEWS [portal](#)
 - [Video](#)
 - [User Days / Events](#)
 - Updates to the [CSB](#)



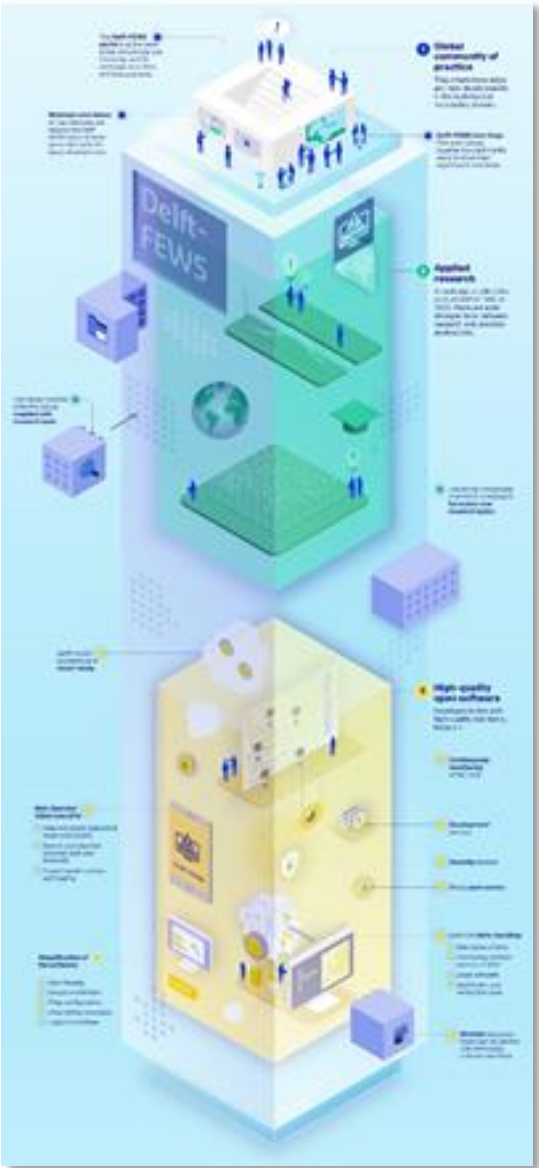


Delft-FEWS Vision 2025: key characteristics...

- Delft-FEWS Vision 2025: a 5 year vision
- 10 releases: 2020.01 – 2024.02
- Yearly development (thematic) roadmaps
- Topics can be on multiple roadmaps
- Initial planning (shared in 2019)
- Funding:
 - Combining with ongoing (large) implementation projects
 - Contributions from standardized S&M contracts
 - Deltares investments

Benefits of annual roadmaps

- Clear expectations
- Organizations can align (scope, time and budget)
- Prioritization of features (incl. backlog 'Roadmaps 2020')



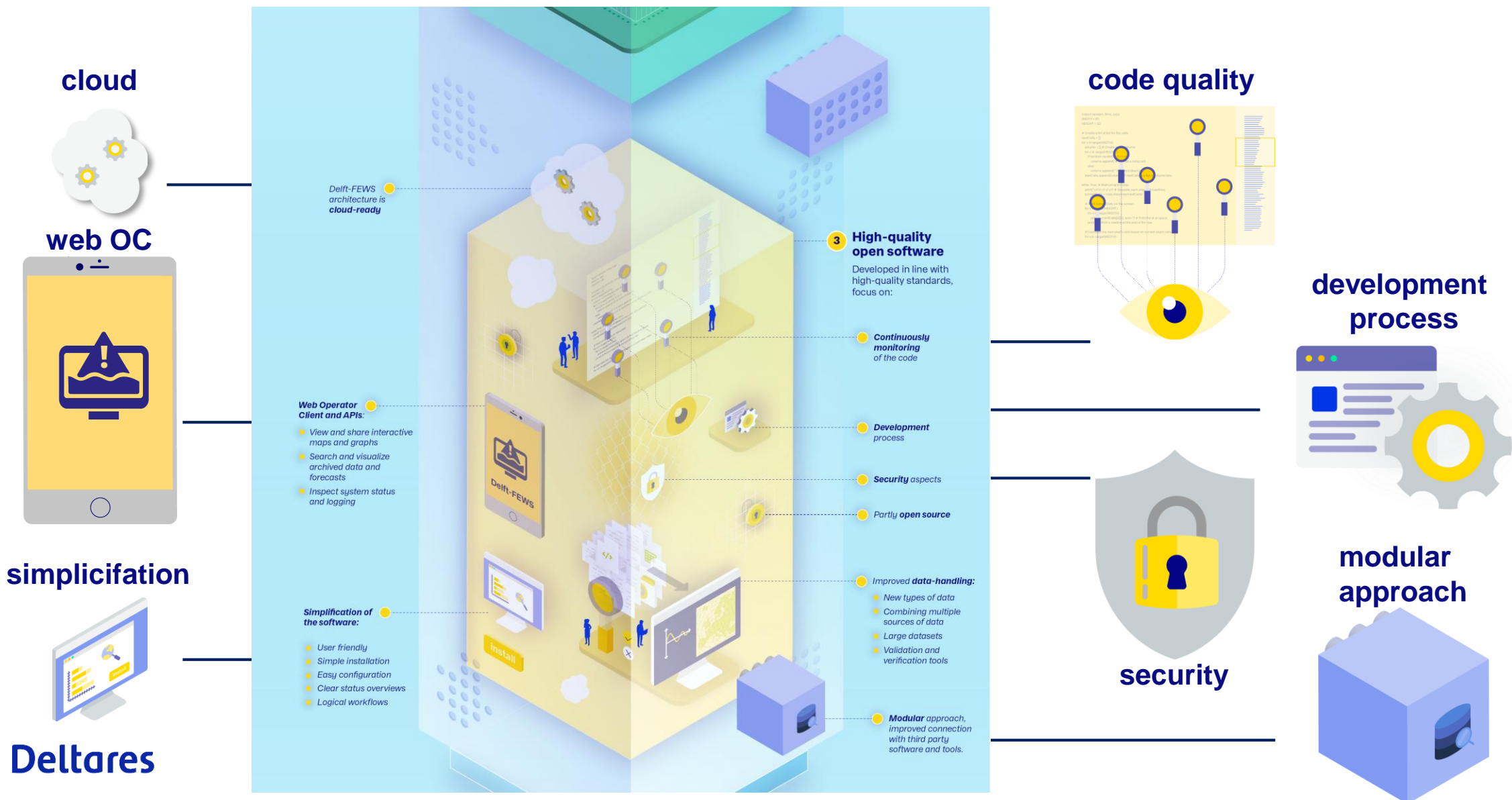


Delft-FEWS Vision 2025: roadmap 2020

Feature / Theme	Parallel projects	Deltares Investments
Backlog (old) roadmaps <ul style="list-style-type: none">• Master Controller (patchable)• Roll-out facilitation (Admin Interface-API)	RWS (NL)	
Computational Framework <ul style="list-style-type: none">• Composed what-if concept• Comparing runs in TimeSeries Display• Comparing runs in Spatial Display	BlueEarth WarmingUp	BlueEarth RIBASIM
Cloud experiences	MDBA (AUS) EA (UK)	Deltares Private Cloud
Development Process & Code Quality <ul style="list-style-type: none">• Description of workflows• Implementation of tools: Sonarqube• Review of Release testing Process: SYSQA		FEWS-PM
Web-based Operator Client Outline for development		FEWS-PM



Roadmap 2021: What are the plans?





Roadmap 2021: What are the plans?

Feature / Theme	Parallel projects (launching customer)	Deltares Investment	Community Funding
Backlog (old) roadmaps <ul style="list-style-type: none">Automatic FSS scalingFinalize seamless integration grids			
Computational Framework <ul style="list-style-type: none">Scenario (case) ManagementCoupling to Python (?)			
Development Process <ul style="list-style-type: none">Sonarqube: set objectives (per release)SYSQA Release Testing ProcessSecurity AspectsCode Clean-Up			
Web-based Operator Client Design and MVP implementation			
Open Archive Extension Open Database (MongoDB)			
Cloud Experiences Continued usage, deployments, supporting and experiencing			



Roadmap 2021 theme: backlog (and good ideas!)

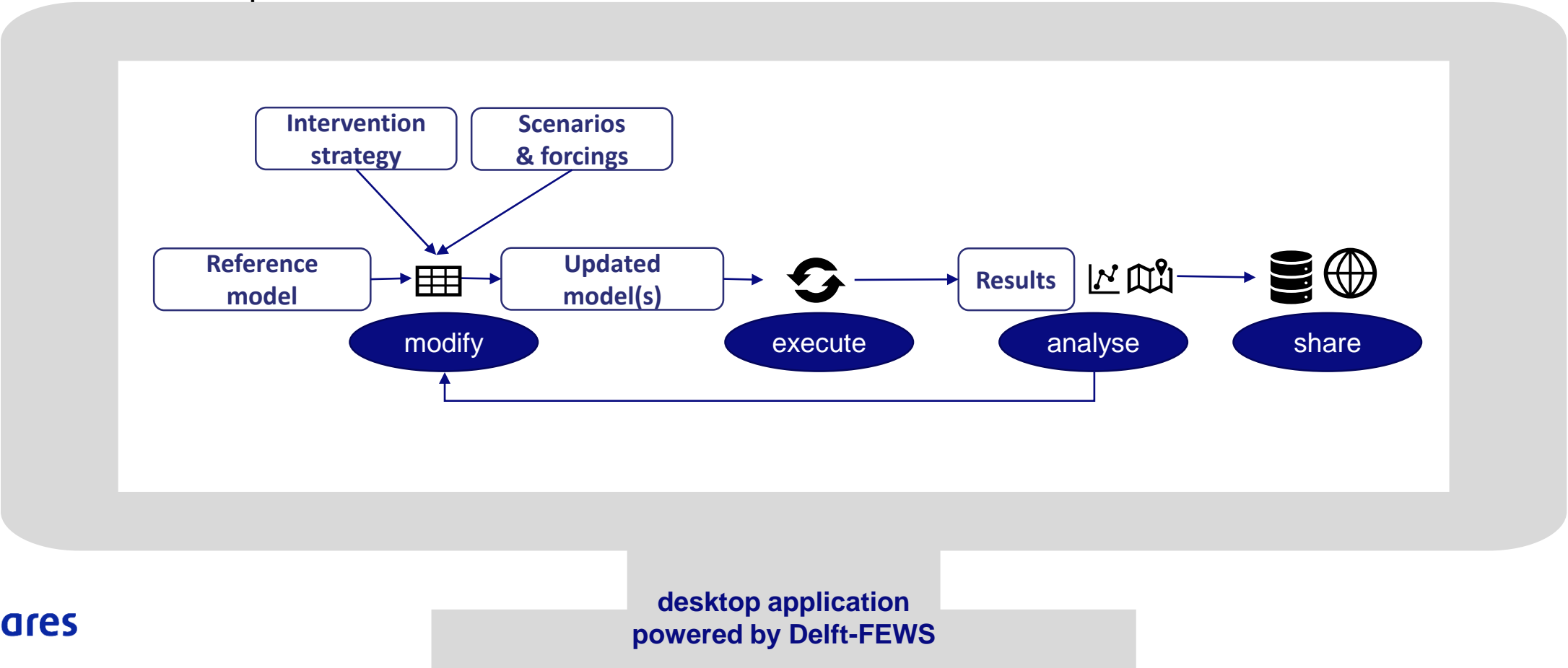
- Automatic FSS up/down scaling
 - Benefit (even more) from cloud features → add/remove computational resources
- Finalize Seamless Integration
 - Please retrieve my data (no matter where it is...)
 - Overarching the central database, open archive, webservice
 - Deltares: maintain a 'functionality matrix' of implemented AND open features
- (Other) good ideas → call to action!
 - Share on the [Portal](#) (!)
 - Combine thoughts (and funding)...during user events, regular meetings, via CSB members etc.



Roadmap 2021 theme: computational framework (CF)



- CF: what is it (again)?...*model execution and analysis application (not strictly in an operational context)*
- Batch mode anticipated





Roadmap 2021 theme: computational framework (CF)



- CF promoted developments
 - Functionality to define, execute, navigate to and manually delete (one or more) scenario runs
 - **Composed what-if concept** → ‘new’ way of creating scenario input for model runs
 - Trigger for removal of legacy code (~5% of total code base) → what-if replacement / old transformations

WhatifTemplate_Examples - Delt-FEWS version 2021.01 #102734 (patc...)

File Tools Dashboards Options Help

Tasks

5 : Tasks

6 : Data Viewer

Copy Apply Delete

Name

Description

Property	whatif.3	whatif.2	whatif.1
WhatIf Examples			whatif1.XXXXXXXXXXXXXXXXXX...
WhatIf Properties			
Simulation length (hours)	3	3	3
Select model data set	moduledataset B	moduledataset A	moduledataset B
Select model parameter file	moduleparfile fixed 20	moduleparfile fixed 10	moduleparfile fixed 20
Select gridded datasource	grid B	grid B	grid B
Double property (min/max)	18.18	18.18	18.18
Double property (unlimited)	-5.0	-5.0	-5.0
Integer property	-4	-4	-4
Boolean property	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
String property	test_string	test_string	test_string
WhatIf modifiers			
Modify time series (only appl...	numbers serious low	nothing selected	nothing selected
Specify attributes	ABA 121 15 10 5	nothing selected	nothing selected
Modify time series (never ap...	multiply * 2	nothing selected	nothing selected

Warm state selection

Time zero: 18-03-2021 16:25:00

Forecast length:

edit run options

Map Graphs Whatif Modifiers Spatial Results Schematisch Overzicht

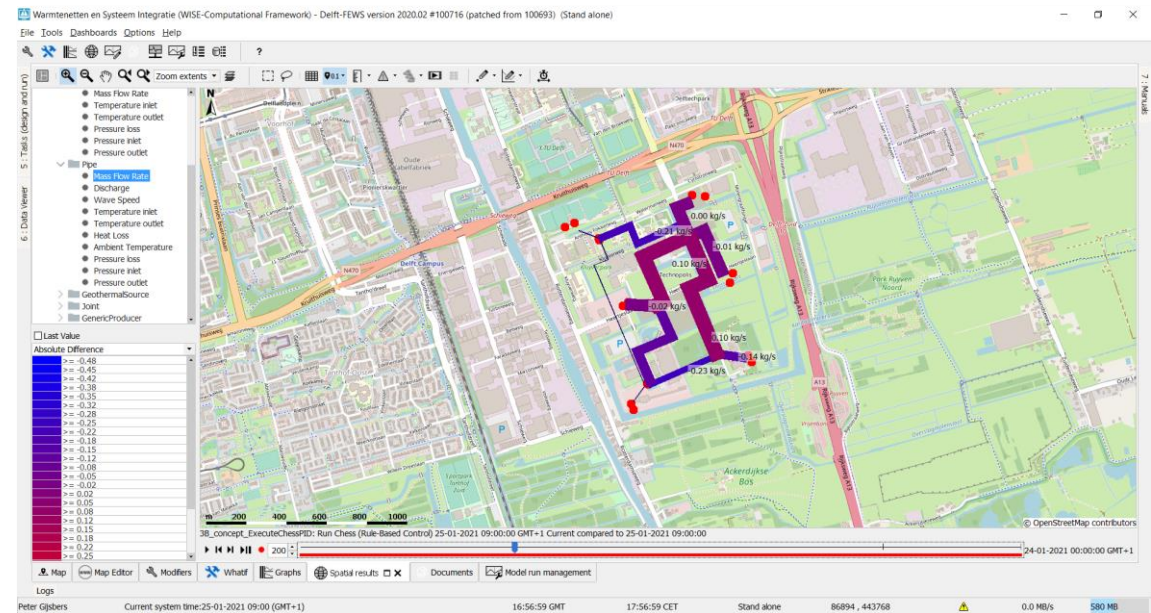
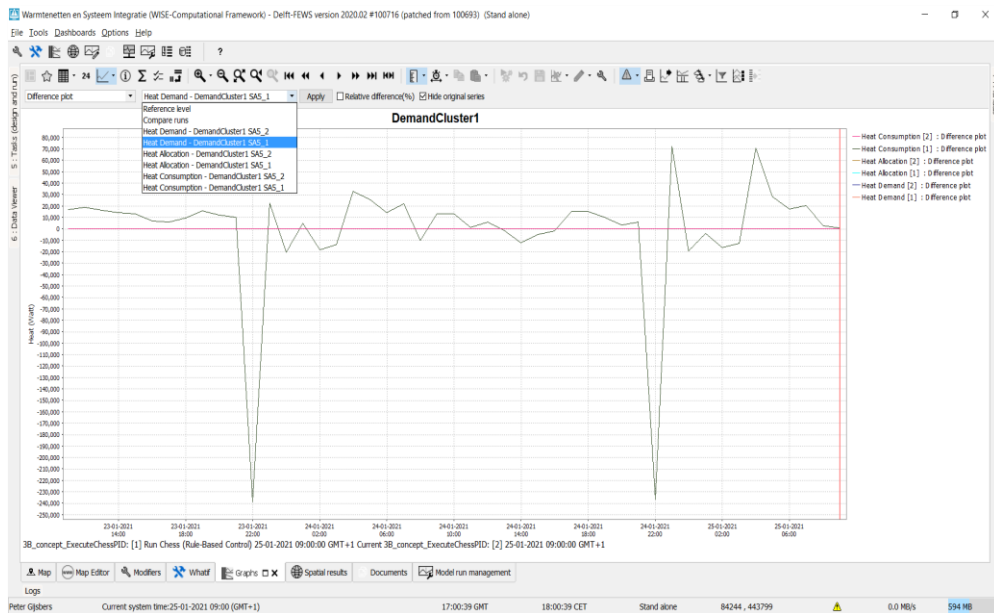
Logs Peter Gijbers Current system time:18-03-2021 16:25 (GMT+1) 13:13 GMT 15:13 CEST Stand alone 51.960 , 4.282 0.0 MB/s 385 MB



Roadmap 2021 theme: computational framework (CF)



- CF promoted developments
 - On-the-fly comparison of model runs in Timeseries Display and Spatial Display

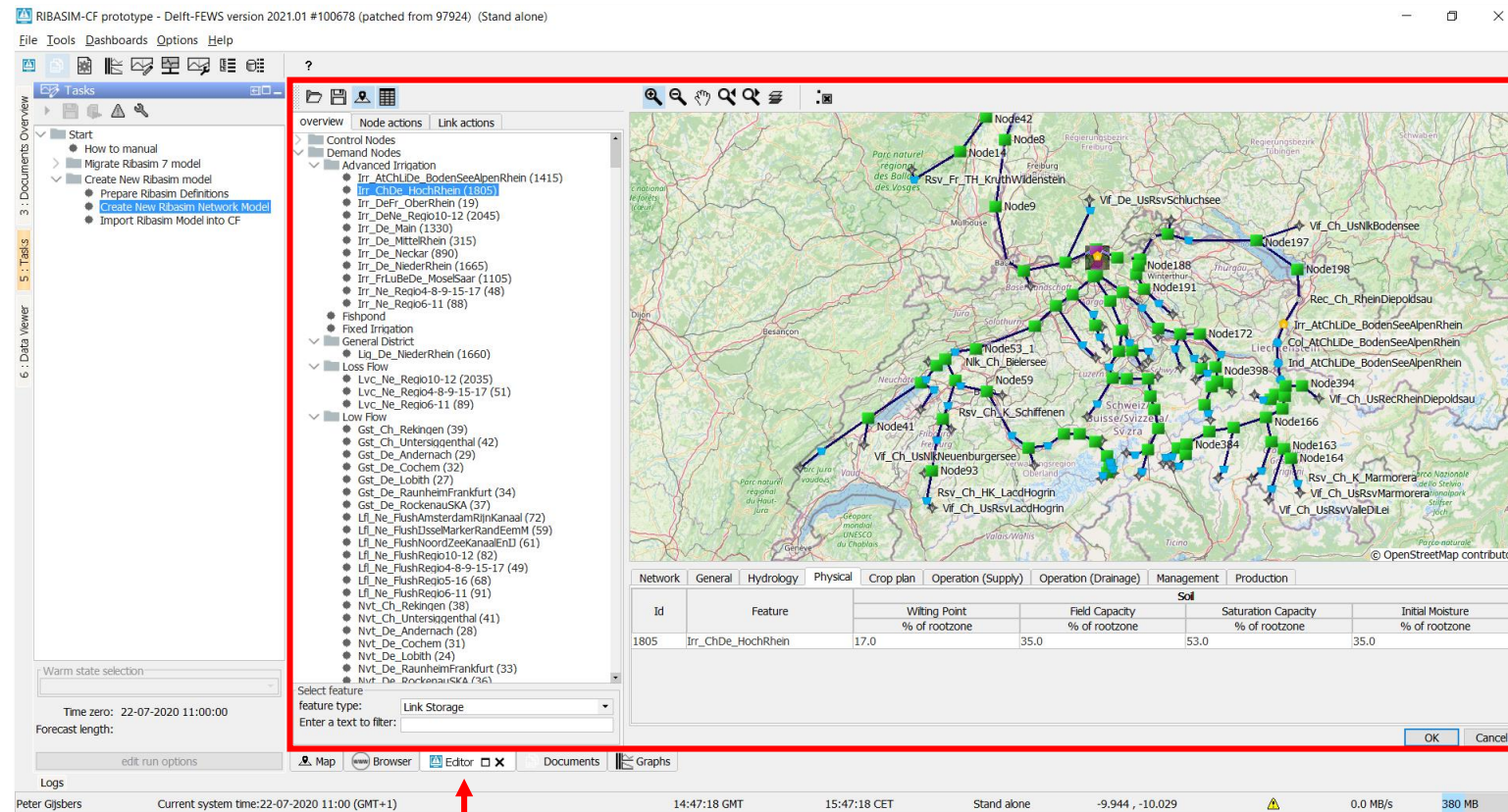




Roadmap 2021 theme: computational framework (CF)



- CF promoted developments
 - Custom Java Display plug-in framework (communicating via file system)



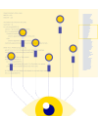


Roadmap 2021 theme: development process



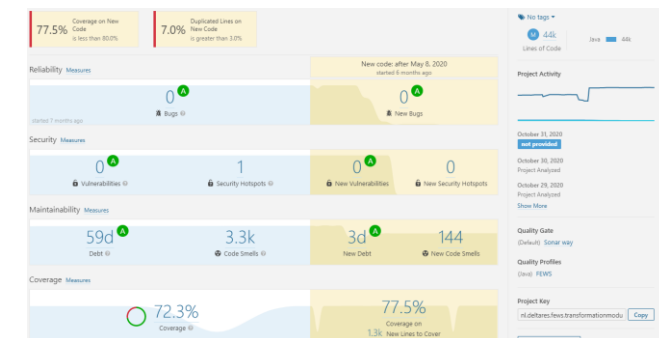
- Topic: **code clean-up plan**

- Available: [plan](#) what **functionality** and configuration options will be **removed** and by **when** (2021 – 2023)
- Documentation on (configuration) **alternatives**
- Delft-FEWS 2021.01: <F12> option to **assess your configuration** for “end of life” functionality
- Technical: code will be removed or moved to temporal libraries



- Topic: **code quality and review**

- Continuous monitoring of code (SonarQube, SIG monitor)
- Tooling integrated with development environments, build/compile-facilities
- Structural attention for **code-reviews** in combination with **knowledge transfer**
- Top-3 displays/modules for improving code **coverage**, code **modularity**
- Increase unit-test coverage





Roadmap 2021 theme: development process



- Topic: **release test and test automation**

- Implementation of SYSQA recommendations: **PRA**, **retrospectives** and **master test plan**
- Use of **Docker** for **integration-tests** (client-server)
- **Automatic deployment** van new builds (archive-test system, pilot RWS-NL)
- Central **repositories** for test configurations and test scripts



- Topic: **security aspects**

- Plan: 5 deliverables
 - **Delft-FEWS Security Principles** (Security arrangements)
 - **Delft-FEWS Security Guidelines** (Architecture, developing)
 - Code improvement thema #1: **Role based access**
 - Code improvement thema #2: **Encrypted data and connections**
 - Code improvement thema #3: **3rd Party modules/libraries** → build server plugin (OWASP)

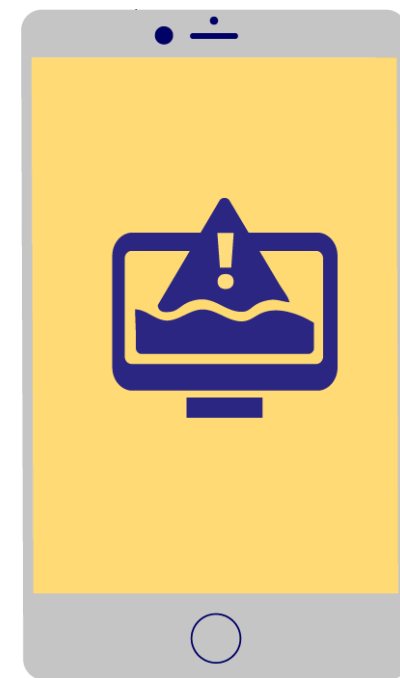


Roadmap 2021 theme: web based OC



- 2nd instance: **external budget** found (architecture, first design / focus / priorities)
- Architecture: **base plate** (design) available
- May/June: **discussion on architecture base plate** (framework, modularity, future-proof) with NL parties → aiming for **collaboration(s)** and **getting feedback**.
- Mid June: feedback elaborated → **architecture approved**
- **Rough estimates** for **developments** (MVP approach)
- **Contributing parties** jointly deciding on prioritization of functionality
- In parallel: **internal software facilities** (development pipeline, process)
- **Updates** will follow before **DSD-INT** (Nov 2021)
- **Aim: MVP launch: end of 2021**

- **INTERESTED??? LET US KNOW!!**





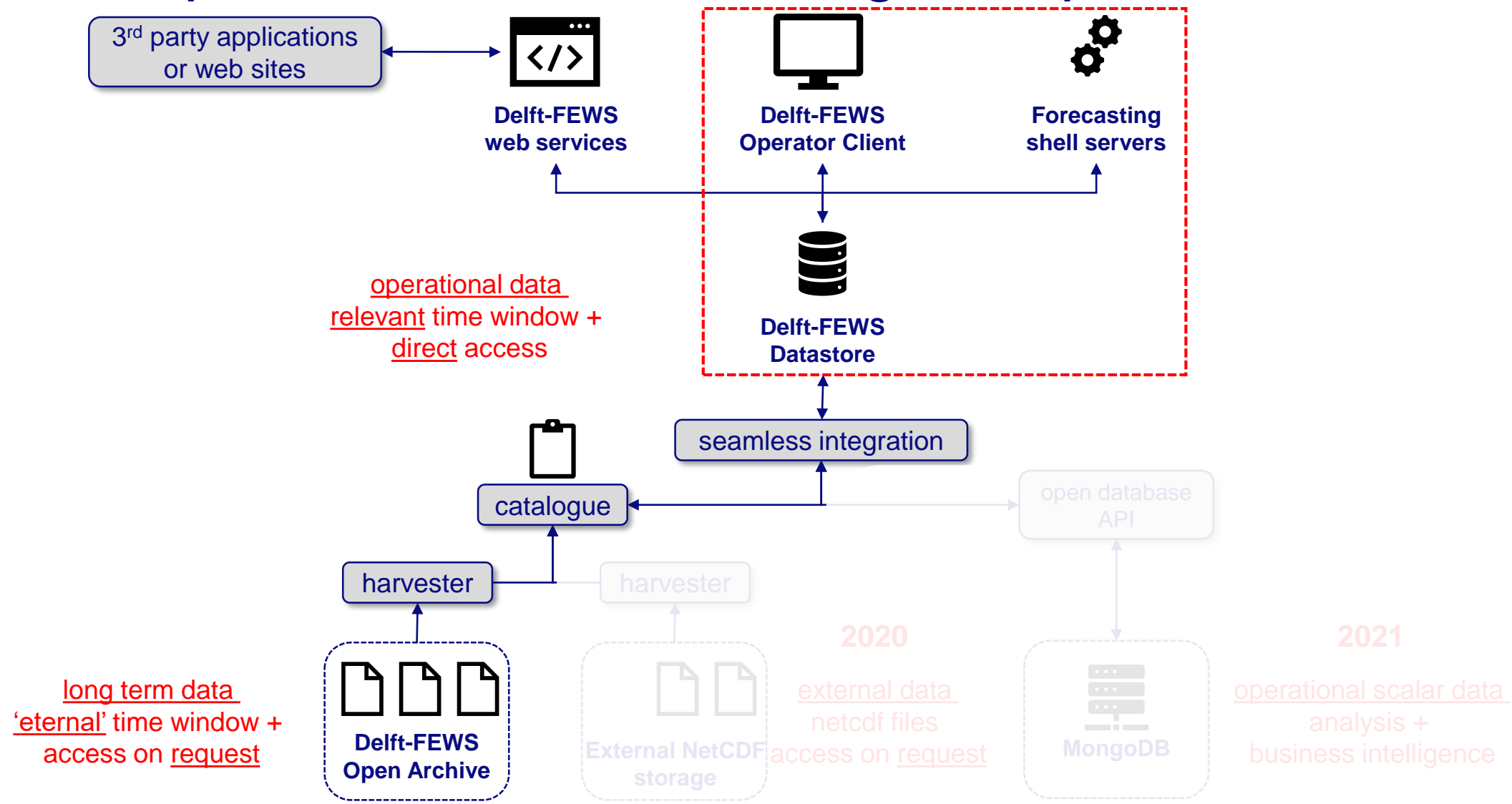
Roadmap 2021 theme: extending the open archive



- Open Archive: what is it (again?)...
- *the long term storage solution for operational data which can be retrieved on request.*



Roadmap 2021 theme: extending the open archive





Cloud Experiences



- Delft-FEWS (even more) cloud-ready, cloud agnostic
- Continued:
 - (own) usage
 - deployment/offered services
 - supporting
 - migrating
 - testing
- Sharing and documenting outcomes
- Session: Delft-FEWS in the cloud (DSD-NL)



Delft-FEWS Vision 2025: funding

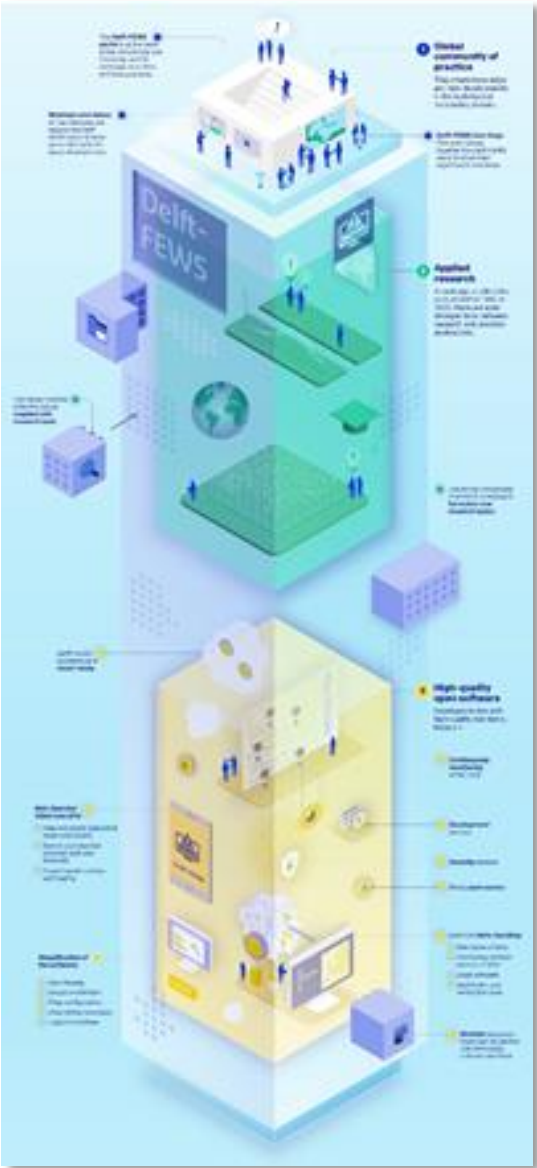
- Principles* unchanged
- Restructuring the Support & Maintenance (S&M) contracts
 - More consistent and more simple approach (administratively)
 - Make vision/roadmap funding part of it
 - Equal share amongst Delft-FEWS users worldwide (total aim: 200 kE/yr)
 - Intensively discussed with CSB
 - New clients (taking S&M contracts) and all (yearly) renewed S&M contracts from 1/1/2022
 - Structural funding: effective in 2022
- In 2021: (need for a) new round of community funding

* Parallel projects, community funding and Deltares investments



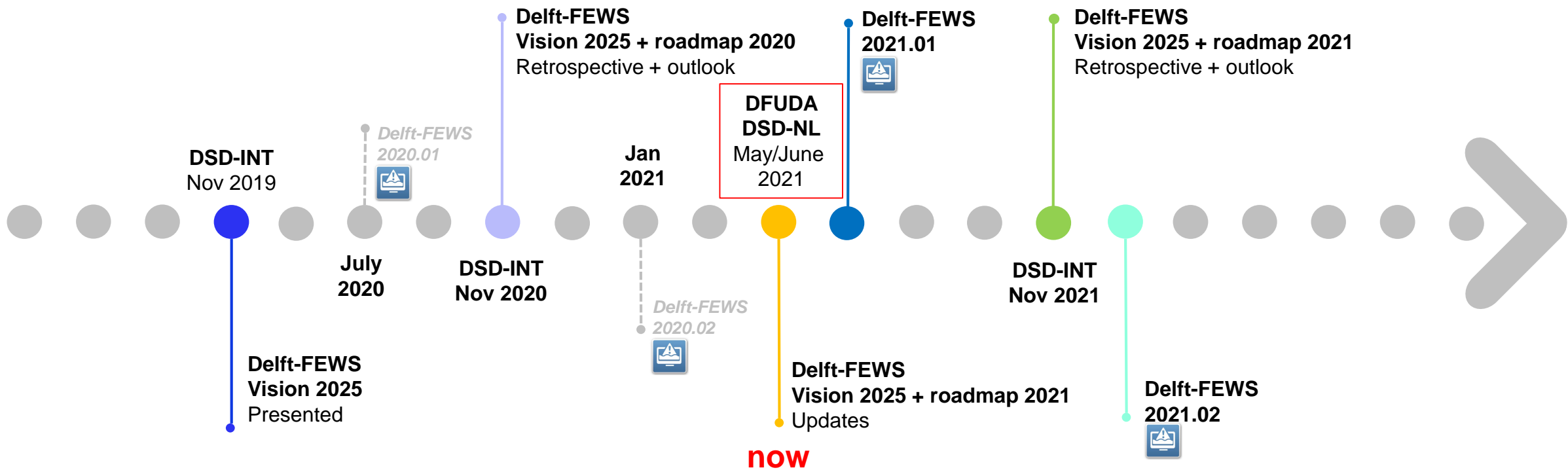
Delft-FEWS vision: outlook/action

- Fine-tuning plans
- Implementing the 2021 plans
- Continue seeking (internal AND external) opportunities (research, projects)
- Communicating updates and results within the Delft-FEWS community
- Estimates/efforts/time available
- Scoping roadmap 2022





Delft-FEWS Vision 2025: timeline



Contact

- | | | | | | |
|---|--|---|--|---|---|
|  | www.delft-fews.com |  | @DelftFEWS |  | linkedin.com/company/deltares |
|  | fews-pm@deltares.nl |  | @deltares |  | facebook.com/deltaresNL |

