# Portfolio Reporting

*Thinking Portfolio® Whitepaper*

# Reporting

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## APPENDIX:Thinking Portfolio –Integration with other systems

# Enabling successful portfolio reporting in your organization

## – *Through proper base work*

Many organizations are trying to establish data-driven culture in their daily decision-making. To turn all the time increasing amount of data to information, usable reporting is in heart of these actions. It can provide countless benefits for organizations who have done their base work properly.
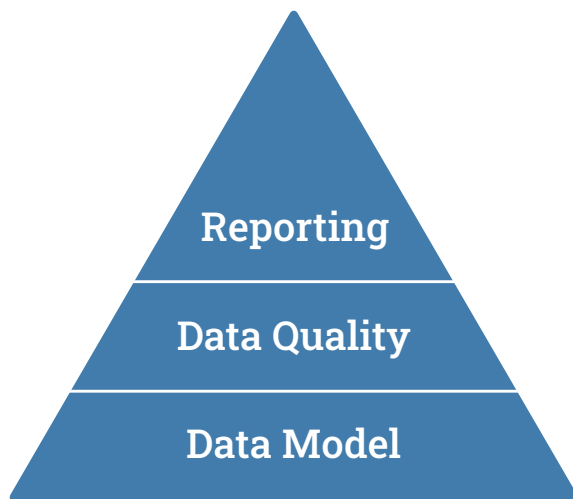


- Make sure that portfolio reporting supports your decision-making needs

- Enables: Transparency, Early warning, fact-based on-time reporting

- Ensure support from management for data quality efforts

- Set internal processes to make sure portfolio data is up to date

- Involve key stakeholders in build up

- Define your entities – Identify attributes and Relationships

*Figure 1. Reporting capabilities build up*

Everything starts from buildup of data model for your portfolio. Include enough wide group of participants from your organization to decide comprehensive plan together, that what kind of information should be included in your portfolio. This work includes defining needed entities and attributes for them. After organization has determined the entities and their attributes, it is time to determine how they are all related. Organizations who allocate enough resources already in this level for data model building, will not just benefit from that work later, but also avoid some of the probable pitfalls like missing something important in their data model.

Even excellent data model will not help organization if data quality is poor. Forecasts and reports are not accurate and employees waste time on inaccurate data. It goes without saying, that data must be up-to-date and clean for efficient decision making. Organizations should have internal processes to support their data quality efforts. Support of these quality efforts should be on top of management's priority lists. Also, their reports are aggregated from grass-root level data.

On solid foundation it is simple to build reporting capabilities just for your organization's needs. When data model provides quality information through reporting to all the stakeholders it allows organization to concentrate its efforts where it matters the most.

# Flexibility in portfolio reporting tools
## — supports users on all levels of organization

Within single portfolio (Project, Investment, R&D, Risk, Application, Compliance etc.) there are usually multiple user groups with different reporting needs. These user groups can vary from Project managers to Board members or from specialists to 3rd party users with limited access to portfolio. Demand for information should be met with versatile reporting tools.

There should be named owners for all the reports. When person has ownership to certain report, it is easier to figure out which direction to develop it and form common understanding how to utilize it. Generally, guidelines creation for report owners standardizes how organization is making their reporting journey in big picture. This ownership of the reports equals to admin role in importance in portfolio management.

First few questions with report management should be: Why report is existing and how to use it? Why are we creating this new report? What are the actions that one should take from this information obtained?

### Resource reporting

Resource reporting in modern portfolio management tool allows the balancing of resource capacity based on demand, and the identification of the most critical roles and resources at any given moment.

During the first idea phase a resource is typically role-based. This enables resource planning at key task level. During the next project stage (definition or planning) a resource can be a named person. Before moving into the realization phase, a resource can be a fixed for the whole duration of the project, or for one month at a time.

After binding a person to the whole project duration, the resource plan can be approved e.g., for the coming three months. Resource planning automatically calculates and takes into account a named resource's assignments on other projects. Each person can even have an individual quota of line operation hours that cannot be used for projects.

Project resource management visualizes the resource statuses of employees with traffic lights. This helps in getting a quick overview of the efficiency of resource management at a certain point in time, or in the future. Resource reporting can then be done on person level, project level or program level.



*Figure 2. Resource Planning*

## Project status overview - Onepager

A so-called Project status Onepager generated for every project contains, in a single report, all the information entered from the project into the system. This is very useful when presenting project e.g., to steering group.

## Pivot

Pivot tables are used for summarizing data. They can automatically process large amounts of data and generate a report showing count totals, averages, sums, and other calculations, as well as arranging data into groups. Pivot tables provide insight that may otherwise be difficult to see.

## Highly visual reporting

Dependency-wheel visualizes portfolio's inter-related projects. One can select and see how e.g., one project is dependent on the other projects.

Other similar reports can help organization's end users to turn information to insights.
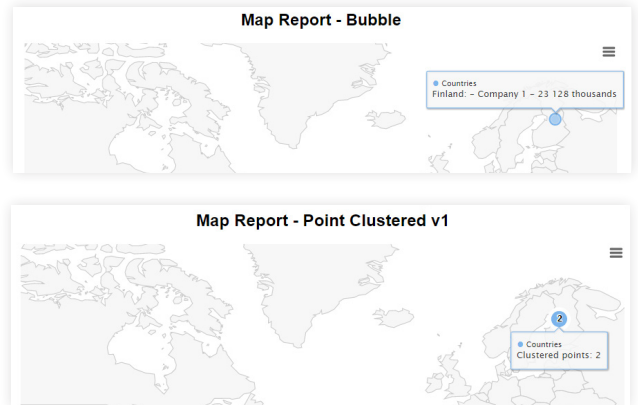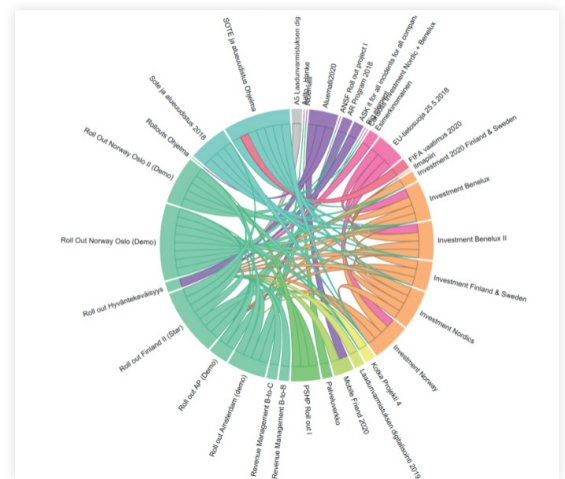


Figure 4. Map report



Figure 3. Project status overwiev – OnePager



Figure 5. Cost pivot



Figure 6. Dependency-wheel

# Access your portfolios key information within minutes

*— When time is of the essence*

Powerful visual reporting allows organizations to dig in straight to information that matters. It also increases transparency within organization and promotes "single truth" when all users have the same up-to-date information. Well planned reports and metrics will assist users to convert information to insights effortlessly. To be relevant, reports need to be delivered at the right time with the appropriate information.

## Customized Dashboards

Dashboards provide data visualization for large quantities of information. Because visual data is usually more quickly and easily interpreted, dashboards are an essential tool to monitoring and tracking data for your business.

As mentioned earlier in this Whitepaper, organizations should find dedicated owner also for their public dashboards. Own dedicated dashboard for each major user group makes sense in Portfolio reporting. It is admin work to keep them up to date with the owners. Users should also have an opportunity to create their own dashboard which can be customized to their specific needs. Dashboard can include e.g., pie charts, bar charts, stoplight charts, KPIs and control charts.

Increased transparency through effective reporting means also better communication through different levels of organization. Senior management can align KPIs to support strategic targets in all the major user groups. Organization could for example have three different public dashboards for these groups and one private for all the users:

- Board dashboard - Portfolio performance information
- Management dashboard - Performance information and progress
- Project manager dashboard - Information for updates, fixes, and adjustments
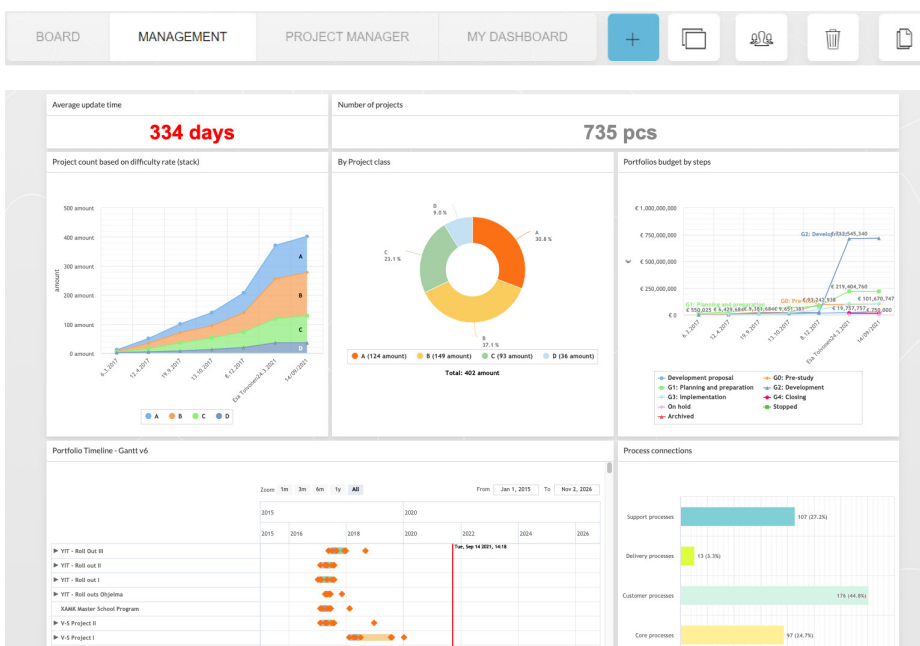- My dashboard - Reports for each user's own specific needs



*Figure 7. Customized Dashboard*

## GANTT chart
*-Combined with tasks and milestones*

GANTT chart is effective tool to follow single project, program or even all the projects within portfolio. It gets even more efficient when you combine project decision gates, milestones, and tasks to same single report. It gives possibility to drill down from project-level to task-level in same view, or collapse rows back to project-level if needed. Multiple user groups can then utilize this same report different ways.

Visualization should include not just gates but also tasks, subtasks, and milestones etc. in same report. Then it is up to user to decide to which level to drill down to get that needed information.

## Data quality control
*– Provides early warning*

Portfolio data quality is key for successful reporting. However, this information is not usually easily available for users in portfolio. Organizations should take some time and build their own data quality control views with key meters.

This would provide solid background to all portfolio reporting, if properly monitored. Internal maintaining processes should be created around this to make sure data is up to date.

Quality view can include stoplight colors in some key date fields, which will give warning if updates are not done within desired time window. Other option is to include data verification fields which require key users to check data in portfolio. One other example would be simple warning if some data is missing from the project in certain field.

Easy access visual reporting enables organizations to utilize their data to fullest and make right decisions in fast-paced environment. It allows them to pursue improvement with transparent KPIs and easy-to-access information. On other side, it makes it possible to discover deviations in early stages to mitigate risk before major problems emerge.
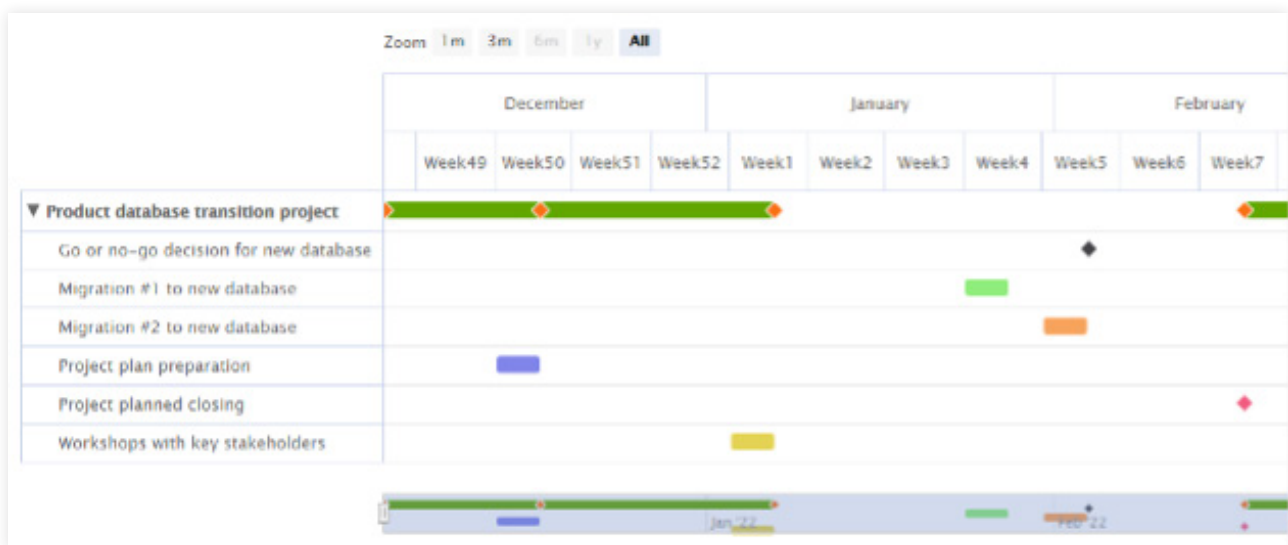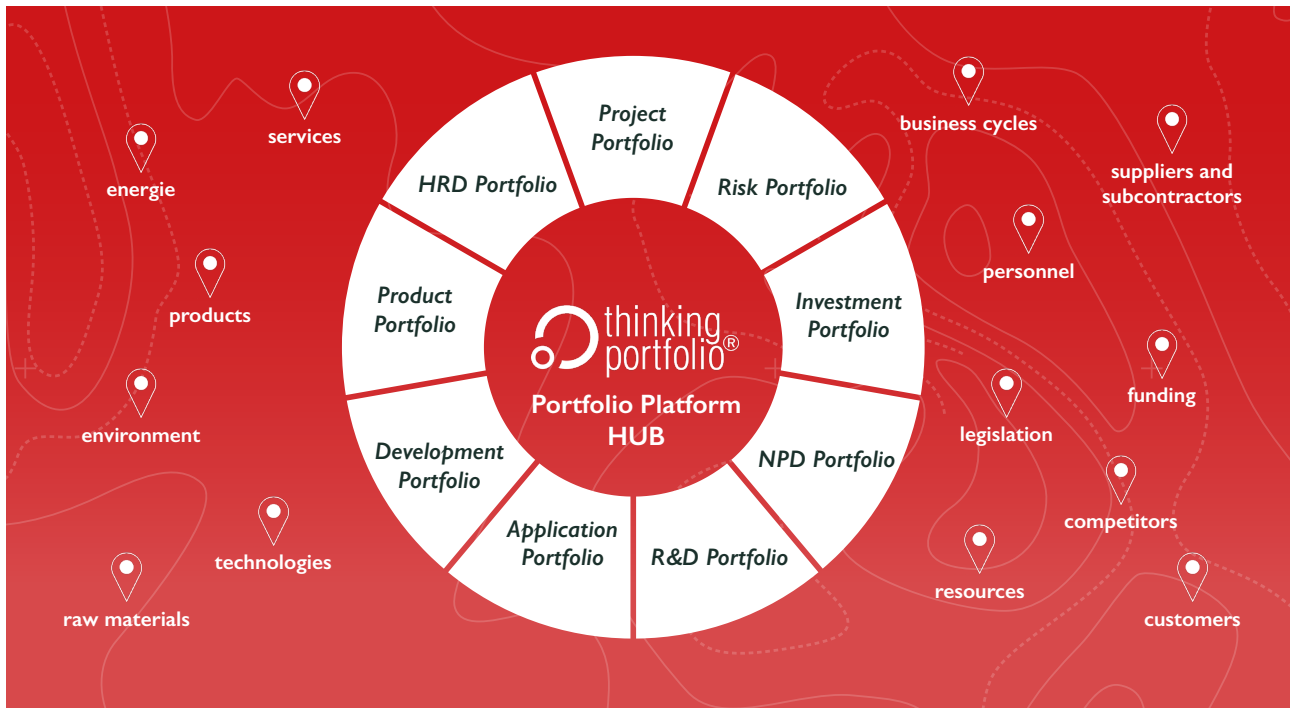


*Figure 8. GANTT Char*



*Figure 9. Data quality control*

# Thinking Portfolio®
# Multi-portfolio Platform (HUB)
*– centralised resource planning at the core*



# Benefits of Multi-portfolio Platform (HUB)

| More versatile user management | Enhances the deployment of multiple portfolios | Administrator's user management of different portfolios |
|---|---|---|
| • Capability<br>• Load<br>• Resourcing | • Overall resourcing for all portfolios<br>• Creating relationships and dependencies between portfolios<br>• Creating new experimental portfolios and developing further as the operations are maturing | • For a user, an opportunity to supplement their knowledge |

## Summary of benefits in Multi-portfolio management

- Prioritization and resourcing: Portfolio management facilitates the segregation of strategically important projects and the allocation of resources to them
- Openness and transparency: The information in the portfolios is visible to everyone who needs it
- Linking data: For example, a project added to a project portfolio also appears in the customer portfolio under that customer. On the other hand, the application portfolio also provides information on the selected systems for the customer portfolio
- Data consistency and comparability: Data is entered in one place in the portfolio management system, in a commonly agreed format, making it easily comparable, for example at project level
- Improved metrics and reporting quality: Setting up and tracking standardized business case metrics is easier. Author-specific Word, PowerPoints, and Excel can be dropped. Reporting is diversified due to different data integration options.
- Reduction of administrative work: Data is automatically transferred from one portfolio to another, reducing manual work

environment allows organization to pursue their strategy more transparent and base their decisions on better information. There are multiple themes to draw insights in reporting. Organization can aggregate their financial data and forecasts from all their portfolios. Also, risks are handled holistically when information is available in one place.

Organization's sustainability efforts can be linked from all portfolios in use to broad sustainability reporting. This improves coordination in those efforts. One very interesting theme in reporting is resource and capabilities management.
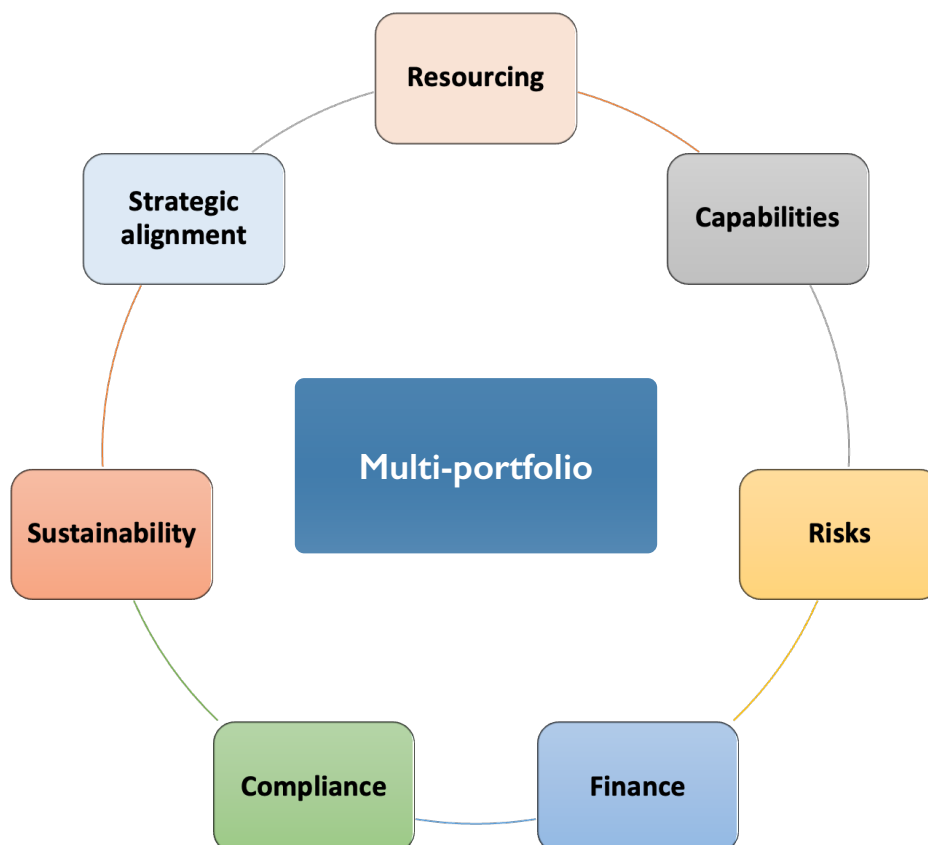
# Multi-portfolio – Resource management

*– The Main View presents an overview of the whole Multi-portfolio*

**Company resources determine whether strategic goals can be achieved. Resources also have a direct link to a company's profitability and revenue.**

Once a potential sales opportunity has emerged, the company must first consider whether there are sufficient resources? And do we have the know-how to deliver what the customer is asking for? Are we able to commit to the schedule? What are the risks associated with existing resources?

*"In our view, capabilities are a key and significant part of resource planning. Ability and competence are always behind every resource. Typically, the most limited capabilities and competencies run out first, and therefore resource planning is also a key part of prioritization. "Emphasizes Esa Toivonen from Thinking Portfolio. "I would see resource planning change into strategic management when an organization's capabilities are incorporated into a resource portfolio - then it becomes strategic resource planning. The best decisions are possible when this information is available to management in a transparent and up-to-date manner."*

Making resource plans in a timely manner is the starting point for everything. It may initially require effort and a change in behavior, but when it does, it helps the company avoid unpleasant surprises such as delivery difficulties or schedule delays.

## Resource management – Capabilities

Managing capabilities in environment gives organization an opportunity to take advantage of their employee's abilities to the fullest. Their skill sets and certificates information is available in all the portfolios when organization is doing resource planning for future.

In modern portfolio resource management users can maintain their own capabilities up to date by themselves. Organizations can involve management and HR etc., also to this maintaining process. Main target is to link this capabilities information directly to user, which creates a lot of opportunities for organizations in their resource planning. Especially for those organizations which are operating in multi-portfolio environment.

When this information is successfully implemented to portfolio, it's harvest time for resource planners. It enables more efficient bottleneck discovery and more efficient uti-

lization of workforce abilities. They can start asking following questions:

- Are we using right people for right project?
- Are some key resources in overload all the time?
- Is my organization missing some capabilities?
- Is my organization not utilizing its capabilities in full force?

resource planning makes these pain points and other discoveries very real. There is now quality information for organizations to adjust resource planning and make correct decisions based on actual data. Thanks to better visibility through centralized resource planning.
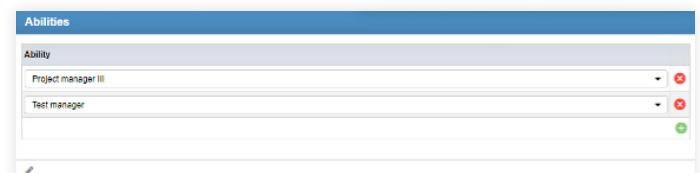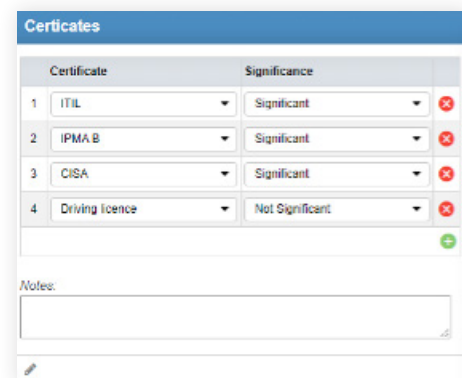






*Figure 10. Certificates, Abilities and Competence radar*

## Resource Management – Global resource planning

Resource allocation is efficient when workforce key competences are linked directly to all employees. When planning a project, there will be excellent visibility to available workforce in the needed roles.

Global resource planning combines all information needed for successful decision making. This enables better allocation of your organization's resources.

In modern  management all the portfolio data is interlinked. This provides better transparency for resource management. Employee's baseload/linework will be visible also in other portfolios. It's up for organization to decide that at which level they will do resource planning. environment enables different approaches.

In global resource planning organization can connect its resources from all their portfolios with strategic themes. When this connection between resources and strategy is established, it will create unique opportunities for senior management. They can allocate resources better to meet their strategic goals and have greatly increased transparency for their resource planning.

## Global Kanban

Global Kanban is a visual representation of the planned work that allows everyone in organization to see the status of the tasks in all the portfolios. Tasks can be divided for example three categories; to do, work in progress and done. Global Kanban allows anyone with access rights to to see immediately the status of a particular task or filter
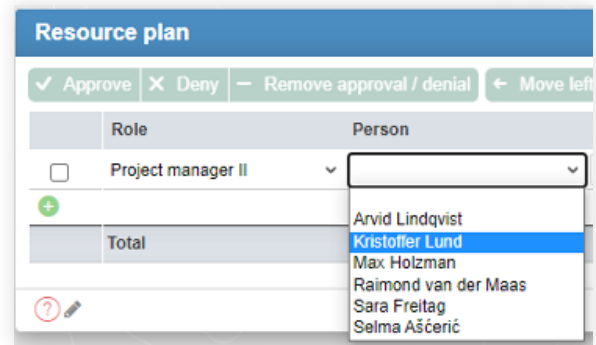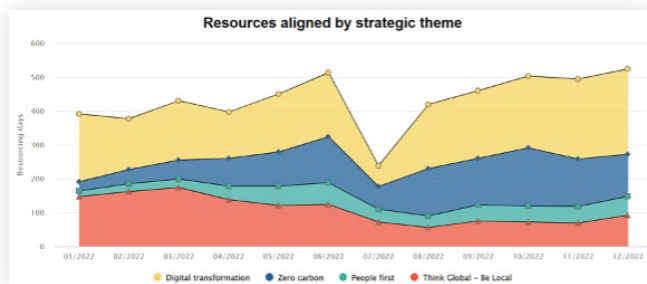
Figure 11. Resource plan

Figure 12. Resource allocation

Figure 13. Employee's baseload/linework will be visible also in other portfolios.

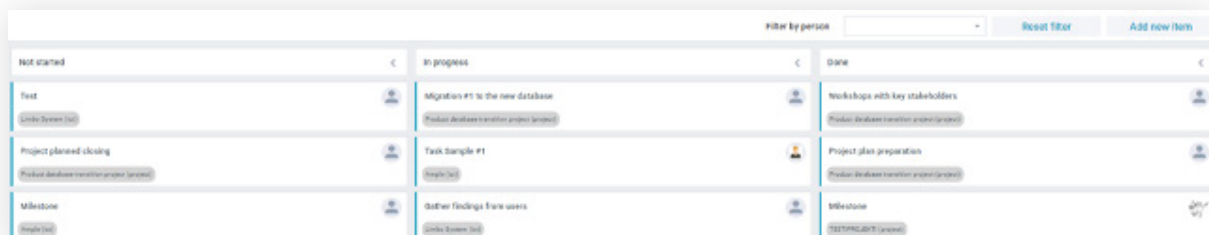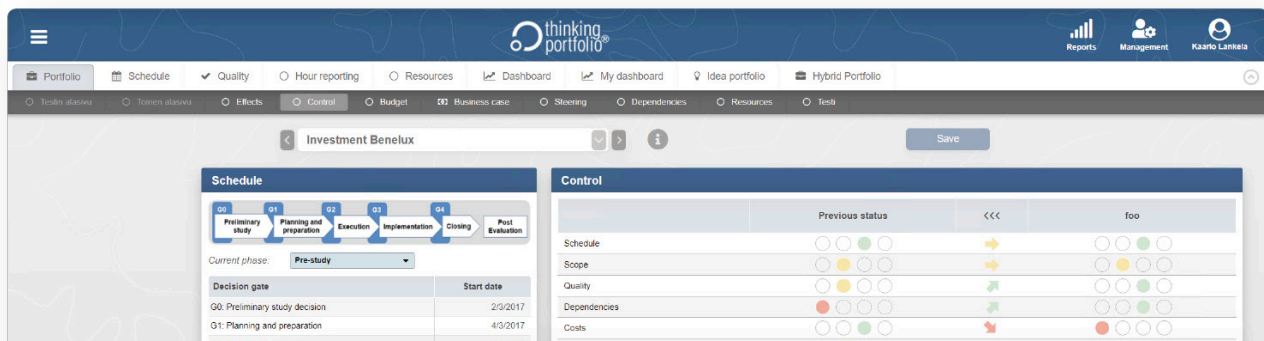Figure 14. Resources aligned by strategic theme

Figure 15. Global Kanban

# Thinking Portfolio – Integration with other systems



- When designing an interface, it is important to understand why and where information is first generated in the information system.

- If the place of creation of the information is, for example, an idea and project portfolio, then this will be the so-called Master.

- The interfaces are very often data model specific and almost any interface can be implemented.

- The starting point is that the user does not have to enter and especially maintain data in multiple locations.

- It is good to remember that if the data to be transferred is personal data, the permission obtained will also be verified for the purpose after the data transfer.

- It is recommended that integrations are implemented after portfolio deployment. The advantage is that the data models have been established and there is no unnecessary need for change.

- During implementation, an ADFS interface is often implemented, i.e. an interface for user management. The ADFS interface allows the user not to have to enter a username and password separately when logging in to the portfolio.

- The benefit of importing data into a portfolio via an interface is to automate data management and processing of information what is been created in another system.

- Similarly, the goal of exporting data from a portfolio through an interface is to automate the management and processing of information that is needed in an organization's reports outside the portfolio and is created or maintained in the portfolio.

# Practical examples of different systems interfaces and the information

*The most common integrations include:*

- Import of financial realization data from the financial system (e.g. from the purchase ledger to project realization data to the project portfolio).

- Transfer of budgets or forecast data from the portfolio to other reporting systems (e.g. transfer of budget and forecasts to Power BI or Qlick Sense).

- Transfer of selected data from the portfolio to publishing systems (e.g. publication of basic project information on the city's website)

- Export or import of reported actual working hours from the portfolio.

- Interfaces to document management / case management systems (e.g. more detailed cost calculations, etc.)
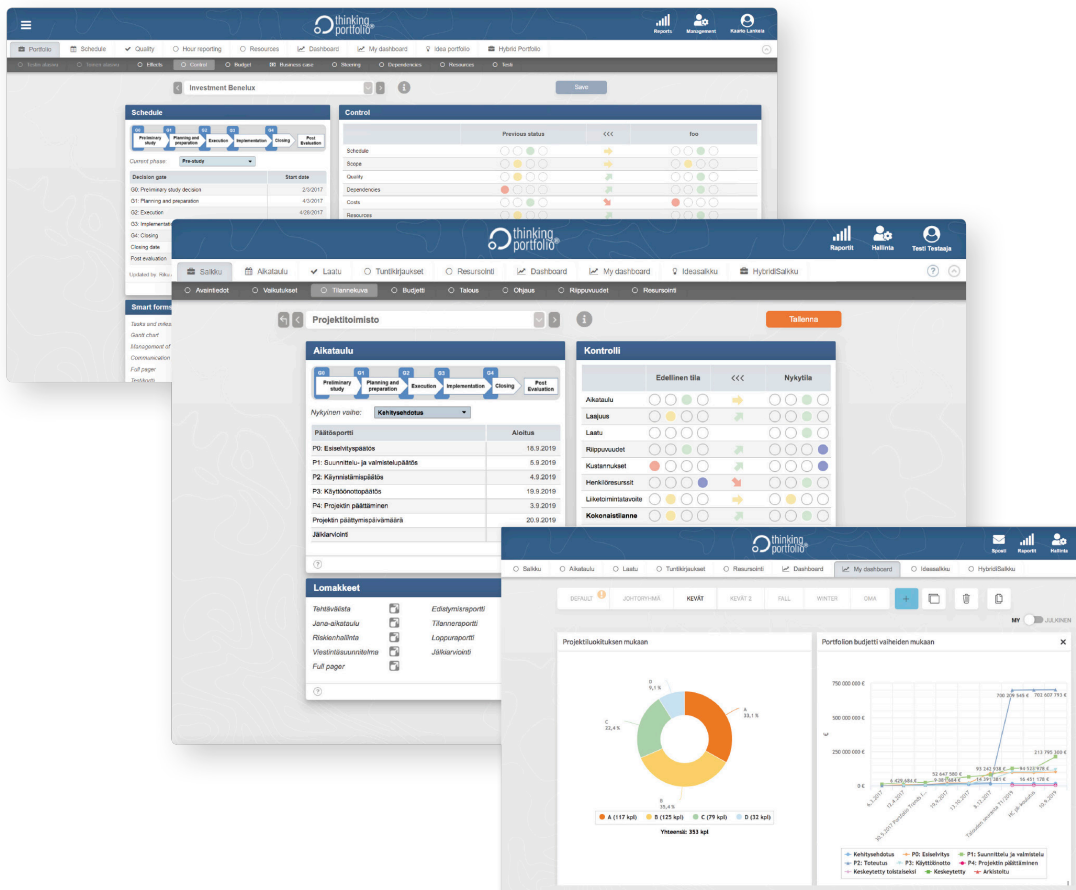
# Available solutions for the implementation of various interfaces

### REST API

REST (Representational State Transfer) is a model based on the HTTP protocol for implementing programming interfaces. Often suitable for data transfer between newer solutions and nowadays quite commonly used.

### WebHooks

In WebHook, there is no need to make repeated requests via the API, but the Thinking Portfolio is proactively informing about the event, for example Teams or Slack. The concept is well suited for situations where the information in the portfolio is constantly updated, such as status or gate updates, new ideas, projects, risks, products are created in the portfolio, etc.

# The most used data formats for implementing integrations with the Thinking Portfolio

**CSV**

## *CSV text file*

CSV (Comma-Separated Values) is a file format that stores simple tabular information in a text file. A very traditional but still often easy to implement option is sometimes also referred to as the Excel format.

**JSON**

## *JSON*

JSON (JavaScript Object Notation) on is a simple open standard file format for communication.

**XML**

## *XML*

XML (Extensible Markup Language) is used both as a format for communication between systems and as a format for storing documents. XML is a structured description language that helps to structure large masses of data more clearly.

*Exact data formats used in the specific integration are agreed on case by case based on the customer needs.*

# Real-time or periodic update?

- It is good to consider whether the information needs to be updated every 10 minutes, for example, or whether it is enough to run the subscription once a day or at the end of a month.

- The starting point is the significance of the data to be transferred and the assumed update cycle in the sending system. For example, realization data for projects may be quite sufficient to run once a day (e.g. hourly postings) or weekly / monthly (economic purchase ledger realization data).
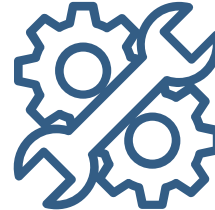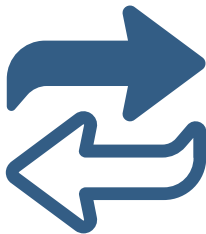
# Possible services

### Definition

- Assessment of the need, master data information
- Consulting, data modifications, format verification

### Maintenance

- SLA and monitoring the functioning of integration

### Change management
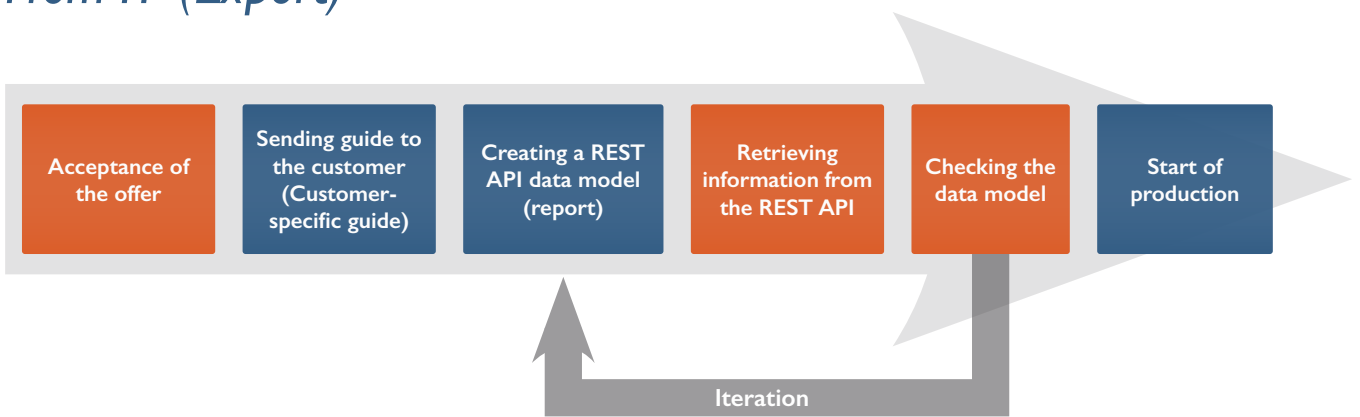
- Based on the needs

### Follow-up

- E.g parameterization of tracking fields in the portfolio

# Examples of current integrations

| Business support system | System examples | Import from | Export to |
|---|---|:---:|:---:|
| ERP / Financial Systems | Salesforce, SAP, Dynamics Navision, Visma | X | X |
| BI, Reporting | Qlik View, Power BI, Tabloid | X | X |
| Filesharing | Teams, Sharepoint, M-Files, One Drive, Dropbox, Google Drive | X | X |
| Team collaboration | Teams, Slack (e.g Webhooks) |  | X |
| Project and Service Management | Primavera, ServiceNow, Jira, Confluence | X | X |
| SSO (Single SignOn) | SAML2, VIRTU, HAKA, SURF, ADFS, Azure AD |  |  |

# Integration

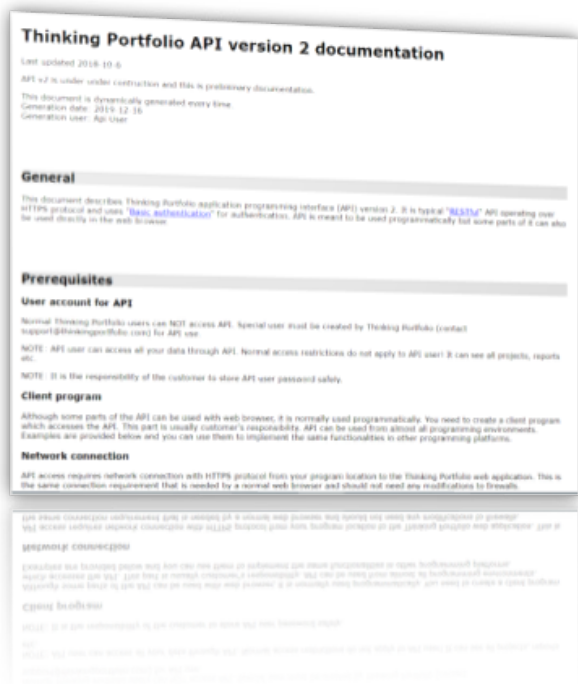## From TP (Export)



| Acceptance of the offer | Sending guide to the customer (Customer-specific guide) | Creating a REST API data model (report) | Retrieving information from the REST API | Checking the data model | Start of production |
|---|---|---|---|---|---|

Iteration

## To TP (Import)



| Acceptance of the offer | Sending guide to the customer (Customer-specific guide) | Creating and sending example information to the API | Driving example data to the base | Checking example data | Start of production |
|---|---|---|---|---|---|

Customer | Thinking Portfolio

Iteration

# REST API documentation and guide



- Includes customer-specific documentation about the subscription

- Automatically created for the customer when the subscription is started

- Includes instructions for retrieving and entering information

- Contains possible and defined retrievable and readable information (EXPORT & IMPORT)

- Includes examples for retrieving information (PowerShell and Curl)

- Dataformat such as XML, JSON, CSV, text etc.

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