Chrestos – Die grüne CRO

Swarming Success: Optimizing Efficiency in Statistical Programming

PD02

Lea Zittlau, Dr. Saskia Ständler

17.11.25

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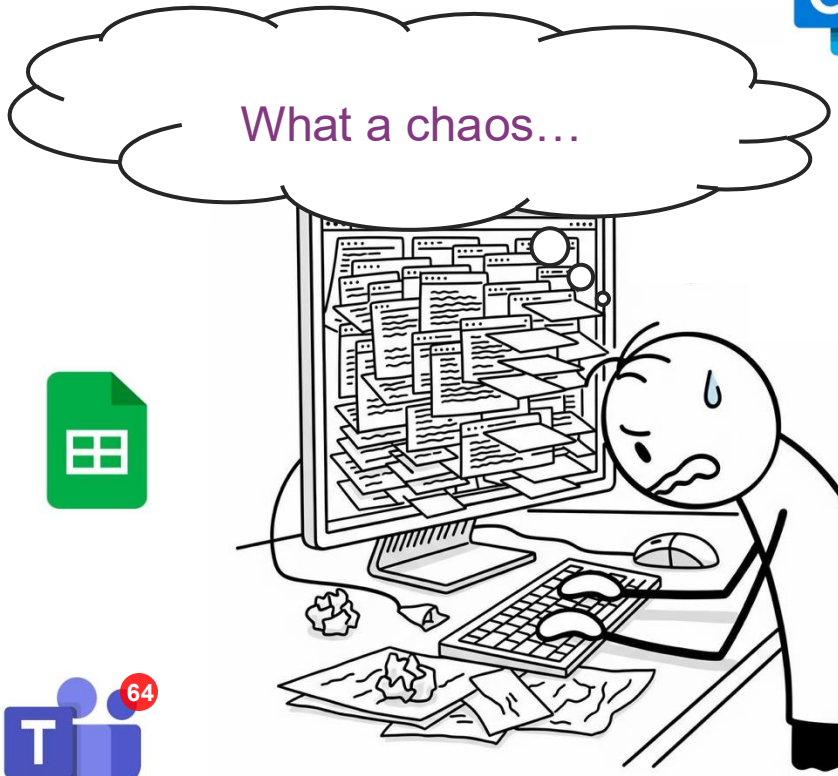

Google DeepMind. (2025). Gemini 2.5 Pro (25 March version) [Large language model]. https://gemini.google.com

Natures‘ Example: Bees

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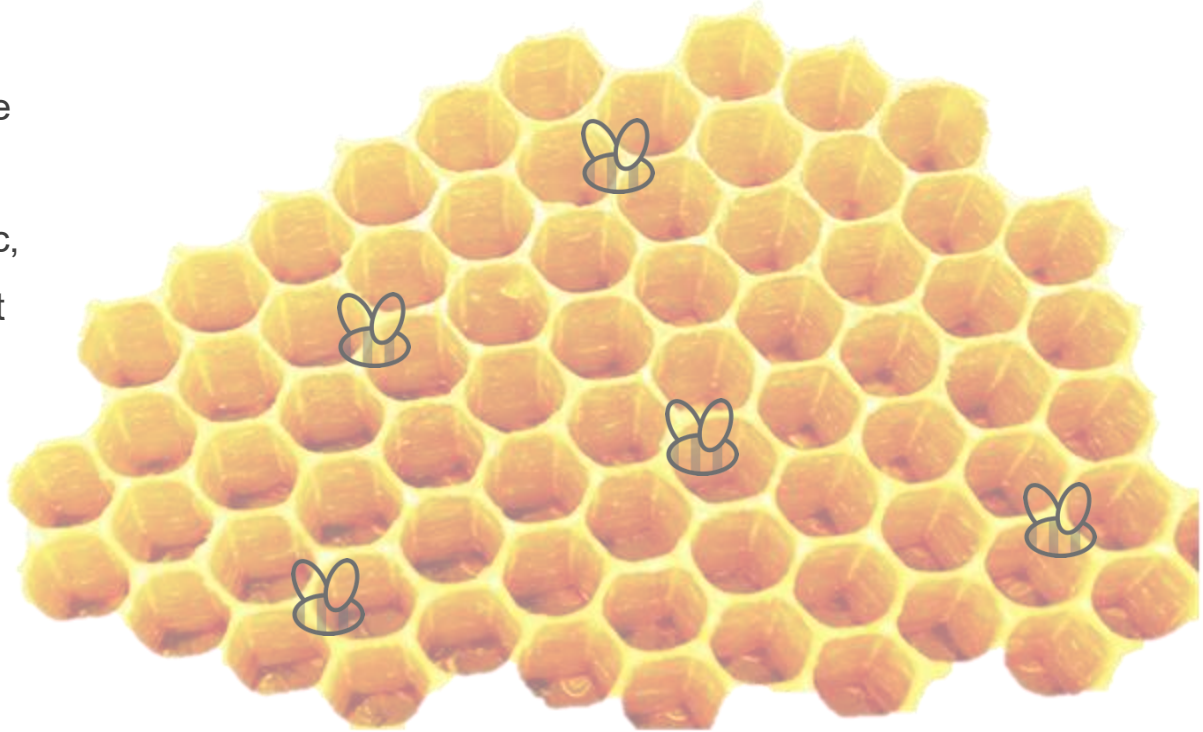
- Over 80,000 bees in a beehive
- One can think it is very chaotic, but actually it is highly efficient



https://blog.ratioform.de/vorbild-natur-teil-3-bienenwaben-ideale-form-bester-schutz/

The “Secret" of Bees

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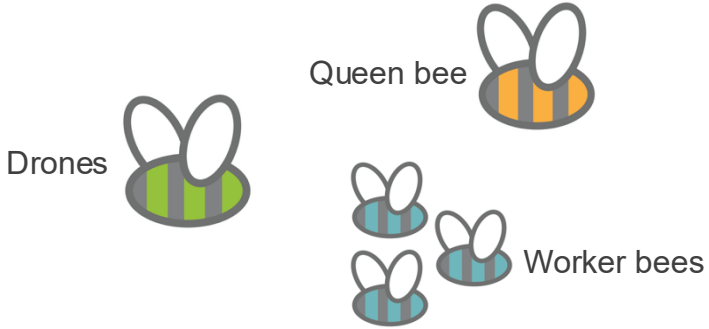
- Hierarchies are not decisive; there is no single bee that controls everything
- It‘s all about the outcome
- Clear division of labour, every bee knows its role
  - Three main bee types
- All tasks in the hive can be done simultaneously due to labour division
- Each bee is self-organized and can make decisions on its own to a certain extent



Collaboration

Queen, workers, and drones all work together to build the nest and collect nectar

People with different skills, each person takes on a task that suits their skills, everyone must work together to achieve the common goal

https://de.freepik.com/vektoren-kostenlos/buerotisch-mit-draufsicht-des-teams-und-der-laptops-runder-tisch_25968339.htm

Communication

"Waggle dance" to communicate information about food sources

Clear and open communication in spoken and written form is crucial

Adaptability

Very adaptable when needed to adjust the size of the nest to environmental conditions

Plans and strategies must be changed when circumstances and projects change

Why Swarming Success?

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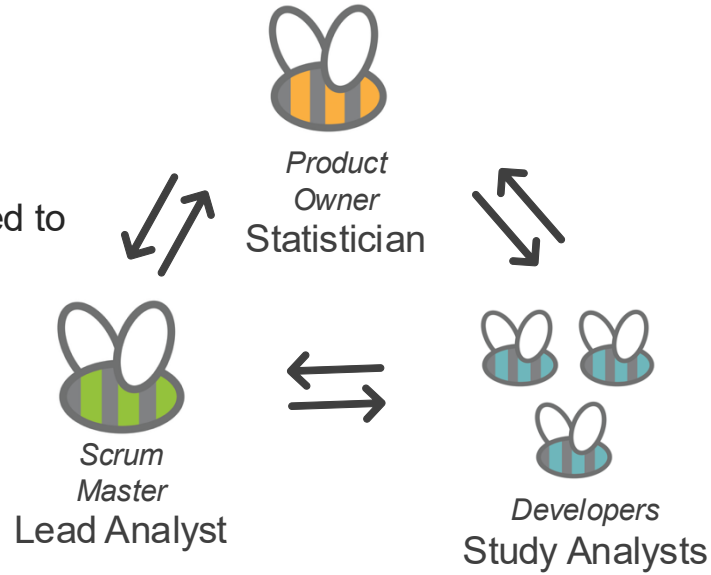
- Agile methods enable teams to be as efficient in their work as bees integrating all three key principles (collaboration, communication, adaptability)
- Divide large projects into small iterations
- Partition of work; each member taking up tasks most suited to their unique skills (role specialisation)
- One method that follows this approach is SCRUM



Scrum Recap

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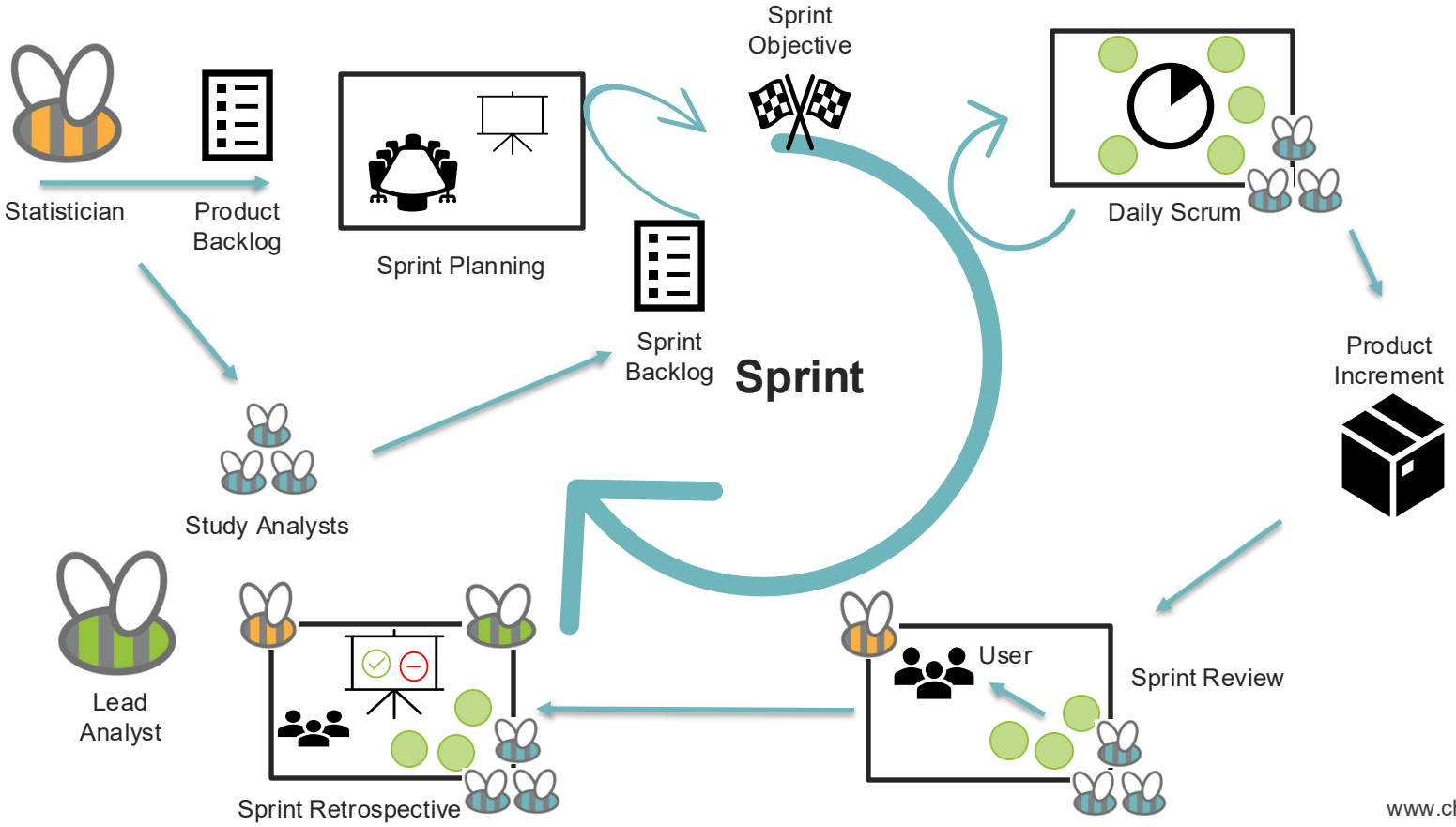

Disclaimer

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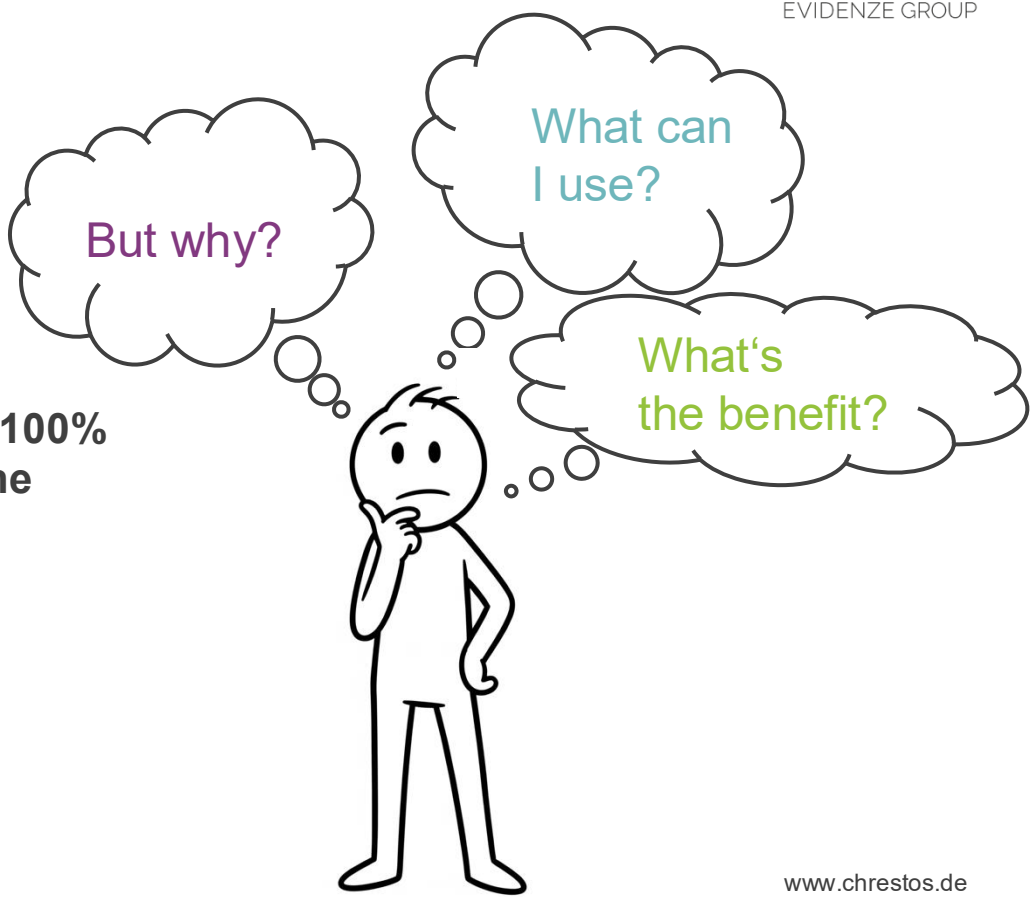
In our opinion, agile principles are not 100% suitable for our everyday work in the pharmaceutical industry.



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Scrum Recap

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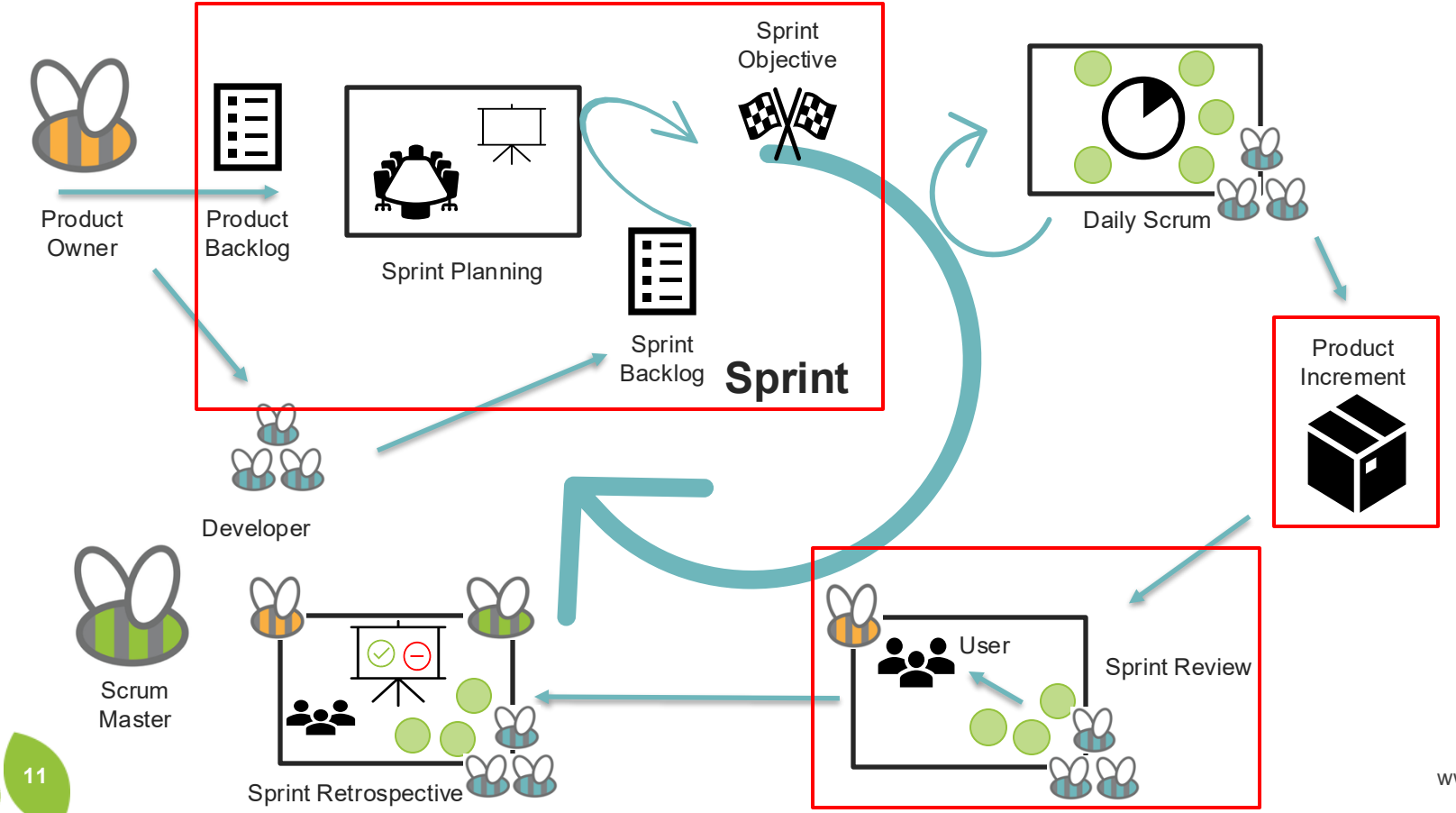

Challenges of Scrum Implementation

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- Working in parallel projects
  - Last minute requests crash sprint planning, sometimes not planable
  - Needs to take different scrum processes into account
- Alignment with colleagues with different working styles
- All meetings are too much effort for small teams that are already in contact every day
- Does not work with highly interdisciplinary teams
- **Benefit: agile tools/software for daily work**

Agile Tools

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axosoft

TAIGA

Shortcut

GitLab

scrumwise

OpenProject

Jira Software

Azure DevOps

AzureDevOps (ADO)

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- Tool from Microsoft for software development
- Track and plan your work
- We use it as **interactive To-Do list**

Disclaimer - SetUp

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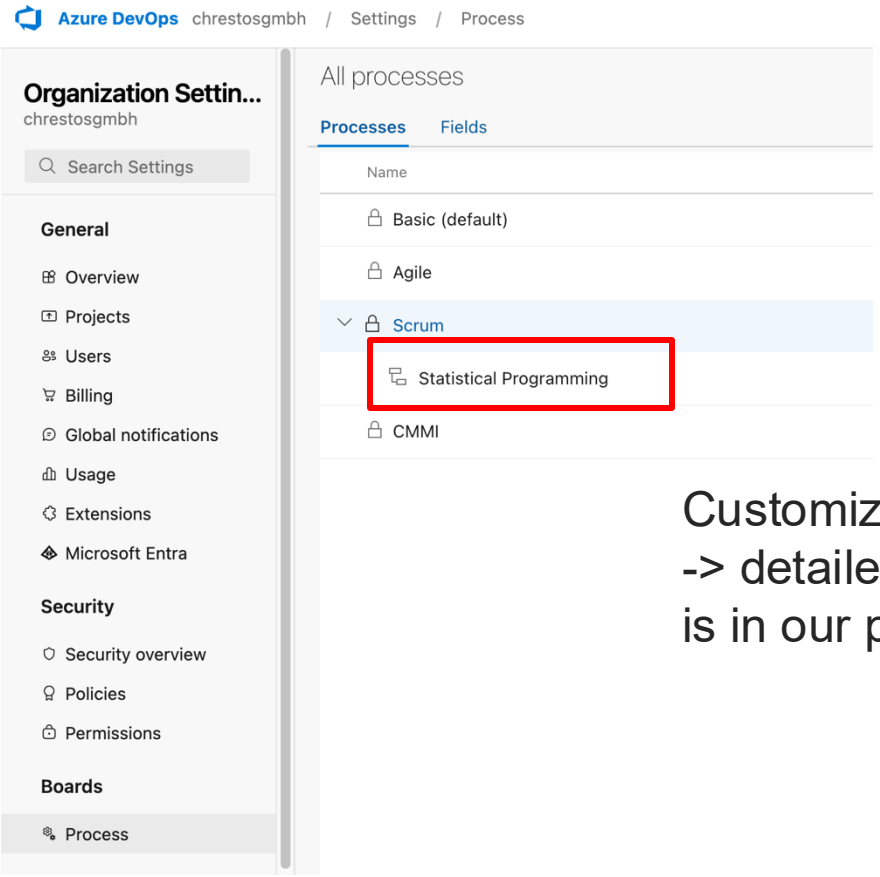

Customized process
-> detailed information for setup is in our paper

Static Worksheet Tracker

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	A	B	C	D	E	F	G
1	**Program name**	**Programmer**	**Programming status**	**Val. Level**	**Validator**	**Issues**	**Validation status**
2	**Datasets**						
3	d_adsl	Lea	done	Double programming	Saskia		done
4	d_adae	Lea	in development	Double programming	Saskia		
5	d_adlb	Lea	done	Double programming	Saskia	baseline flag not right assigned, format for planned treatment is incorrect	in validation
6							
7	**Table & Figures**						
8	t_demographics	Saskia	done	Review	Lea	race is missing as category, missing should be last category for all	in validation
9	t_abnormal_lab						
10							
11	**Listings**						
12	l_adverse_events	Saskia	in development		Lea		

Tracking Interface

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Queries › My Queries › Study1 ☆ Run query +

Results Editor

ID ↑	Work Item Type	Title	Assigned To	State
4	Epic	Datasets		In Development
7	Product Backlog Item	d_adsl		Done
8	Product Backlog Item	d_adae	Lea Zittlau	In Development
11	Product Backlog Item	d_adlb	Saskia Ständler	In Validation
18	Bug	Baseline flag not right assigned	Lea Zittlau	In Development
19	Bug	Format for planned treatment is incorrect	Lea Zittlau	To Do
5	Epic	Tables & Figures		In Development
9	Product Backlog Item	t_demographics	Lea Zittlau	In Validation
20	Bug	Race is missing as category	Saskia Ständler	To Do
21	Bug	Missing should be last category for all	Saskia Ständler	To Do
10	Product Backlog Item	t_abnormal_lab		To Do
6	Epic	Listings		In Development
12	Product Backlog Item	l_adverse_events	Saskia Ständler	In Development
17	Task	Clarify timelines for TLF submission	Lea Zittlau	To Do

Terminology

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Epic: Classification of work items, which section of the report or what type of program

Product Backlog Item: Program name

Bug: Issues in the respective program that needs to be solved before it can be set to validated

Task: Additional To-Dos

Dynamic Work Items

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Study1 | Back to query | 4 of 14 work items | 0 selected

PRODUCT BACKLOG ITEM 11

11 d_adlb

Saskia Ständler | 0 Comments | Add Tag | Save | Follow

Updated by Lea Zittlau: Yesterday

State	In Validation	Area	Beecycline\Study1
Reason	Moved out of state To Do	Iteration	Beecycline

Details | 3 | 0

Description

Click to add Description.

Discussion

Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

switch to Markdown editor

Details

Priority
2

Level of Validation
Double Programming

Developer
Lea Zittlau

Validator
Saskia Ständler

Item Start Date
Select a date...

Item Due Date
Select a date...

Related Work

Add link

Parent
4 Datasets
Updated Yesterday To Do

Child
13 Baseline flag not right assigned
Updated 19m ago To Do

14 Format for planned treatment is in...
Updated 18m ago To Do

Dynamic Work Items

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Study1 | Back to query

PRODUCT BACKLOG ITEM 11

11 d_adlb

Saskia Ständler

0 Comments Add Tag

State	In Validation	Area	Beecycline\Study1
Reason	Moved out of state To Do	Iteration	Beecycline

Description

Click to add Description.

Details

Priority

Dynamic Work Items

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Priority
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Level of Validation
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Developer
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Saskia Ständler

Item Start Date
Select a date...

Item Due Date
Select a date...

PRODUCT BACKLOG ITEM 11*
11 d_adlb
Lea Zittlau
0 Comments Add Tag

State	In Development	Area	Beecycline\Study1
Reason	Moved out of state In Validati	Iteration	Beecycline\Sprint 1

Description

Click to add Description.

PRODUCT BACKLOG ITEM 11
11 d_adlb
Saskia Ständler
0 Comments Add Tag

State	In Validation	Area	Beecycline\Study1
Reason	Moved out of state To Do	Iteration	Beecycline

Description

Click to add Description.

- More dynamic than a worksheet tracker

Dynamic Work Items

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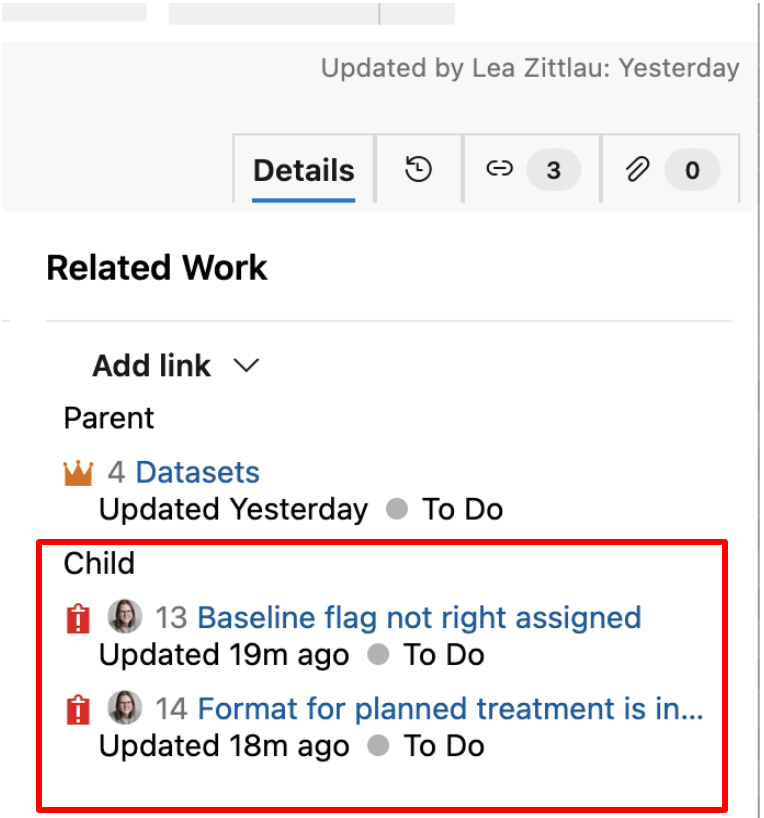

- Parent-child assignment
- Every item is linked with other items

Discussion Feed

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BUG 18

18 Baseline flag not right assigned

Lea Zittlau 1 Comment Add Tag Save Follow

State In Development Area Beecycline\Study1

Reason Moved to state In Developmei Iteration Beecycline

Updated by Lea Zittla

Details 1

Description

Discussion

Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

switch to Markdown editor

Lea Zittlau commented 43m ago

@Statistician there is an ongoing discussion regarding baseline assignment. Can you clarify this?

Details

Priority
2

Developer
Lea Zittlau

Validator
Saskia Ständler

Start Date
Select a date...

Due Date
Select a date...

Related Work

Add link

Parent
11 d_adlb
Updated Donnerstag In Validation

- Direct documentation

Dashboard – The Interactive ToDo List

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Azure DevOps chrestosgmbh / Beecycline / Overview / Dashboards

Beecycline

- Overview
- Summary
- Dashboards
- Wiki
- Boards

Lea Zittlau - Beecycline

Work assigned to Lea Zittlau (5)

3 Product Backlog It... 1 Bug 1 Task

ID	State	Title
18	In Development	Baseline flag not right assigned
8	In Development	d_adae
23	To Do	d_adsl
9	In Validation	t_demographics
17	To Do	Clarify timelines for TLF submission

Beecycline - Study1

Useful Links & Documents

SAP | TLF specs | TLFs

Timelines

11.08.25 planned datatransfer

26.09.25 first draft

Beecycline Team

Sprint 1
18. August - 25. August

1 day remaining

5

1 3

Sprint

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Beecycline Team

New Work Item | View as Board | Column Options

Backlog | Analytics

Backlog items

Filter by keyword | Types | Assigned to | States | Study1 | Iteration | Tags

Order	Work Item Type	Title	State	Ef...	Value Area	Iteration Path
	Epic	Datasets	In Development		Business	Beecycline
	Product Backlog Item	d_adae	In Development		Business	Beecycline\Sprint 1
	Product Backlog Item	d_adlb	In Validation		Business	Beecycline\Sprint 1
	Bug	Baseline flag not right assigned	In Development		Business	Beecycline\Sprint 1
	Bug	Format for planned treatment is incorrect	Done		Business	Beecycline\Sprint 1
	Epic	Tables & Figures	In Development		Business	Beecycline
	Product Backlog Item	t_demographics	In Validation		Business	Beecycline
	Bug	Race is missing as category	To Do		Business	Beecycline
	Bug	Missing should be last category for all	To Do		Business	Beecycline
	Product Backlog Item	t_abnormal_lab	To Do		Business	Beecycline
	Epic	Listings	In Development		Business	Beecycline
	Product Backlog Item	l_adverse_events	In Development		Business	Beecycline

Planning

Drag and drop work items to include them in a sprint.

Beecycline Team backlog

Sprint 1 18.08.2025 - 25.08.2025
Planned Effort: 0 6 working days
2 2

Sprint 2
No work scheduled yet

Sprint 3
No work scheduled yet

Sprint 4
No work scheduled yet

Kanban Board

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Azure DevOps chrestosgmbh / Beecycline / Boards / Boards

Search

Beecycline

Overview
Boards
Work items
Boards
Backlogs
Sprints
Queries
Delivery Plans

As a stakeholder, you can access the backlog, task and Kanban boards, work items and manage approvals for Releases. Learn more

Beecycline Team

View as backlog

Board Analytics

Backlog items

To Do	In Development 2	Development done 0	Output Review 0	In Validation 2	Done
New item 10 t_abnormal_lab To Do	8 d_adae In Development Lea Zittlau 0/0 12 l_adverse_events In Development Saskia Ständler			9 t_demographics In Validation Lea Zittlau 0/2 Add Bug Race is missing as ca... Missing chould be las... 11 d_adlb In Validation Saskia Ständler 0/2 Add Bug Baseline flag not righ... Format for planned tr...	7 d_adsl Done

Kanban Board

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Search

Beecycline

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To Do	In Development 2	Development done 0	Output Review 0	In Validation 2	Done
New item	8 d_adae In Development Lea Zittlau 0/0			9 t_demographics In Validation Lea Zittlau 0/2	7 d_adsl Done
10 t_abnormal_lab To Do	12 l_adverse_events In Development Saskia Ständler			11 d_adlb In Validation Saskia Ständler 0/2	
23 d_adsl To Do Lea Zittlau					
24 t_demographics To Do Saskia Ständler					

Motivation and Training of Team Members

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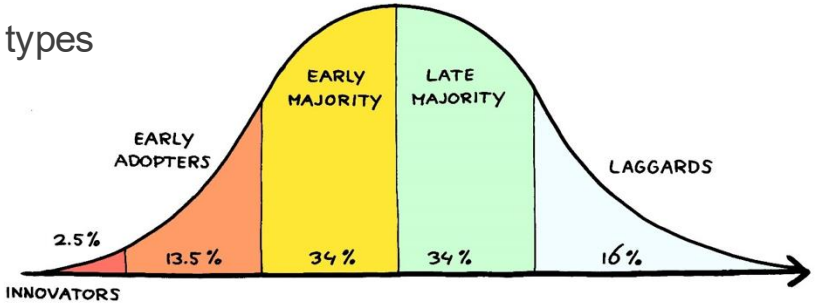
- Give a clear vision about the why, the what and the how – stay commited as the leader
- Clarity that it‘s for a long-term process on both sides
  - Frequent communication; feedback for process optimization
- Invest resources for workshops and mentoring
- Be aware of different engagement levels and working types



https://www.asaecenter.org/resources/articles/an_plus/2017/september/rethinking-the-change-adoption-curve

Take Home Message

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Agile tools…

- Are more dynamic
- Provide better visualization
- Can have everything in one place
- Allow effective communication
- Eliminate the need for additional documentation

Agile tools don´t redefine the wheel. They offer a more efficient way to work in today´s fast-paced industry.

Bees have been agile for a long time …

… so why not get started today?

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Thanks for your attention!