Turning Visions
into Business.

wibas

TECHNISCHE
UNIVERSITÄT
DARMSTADT

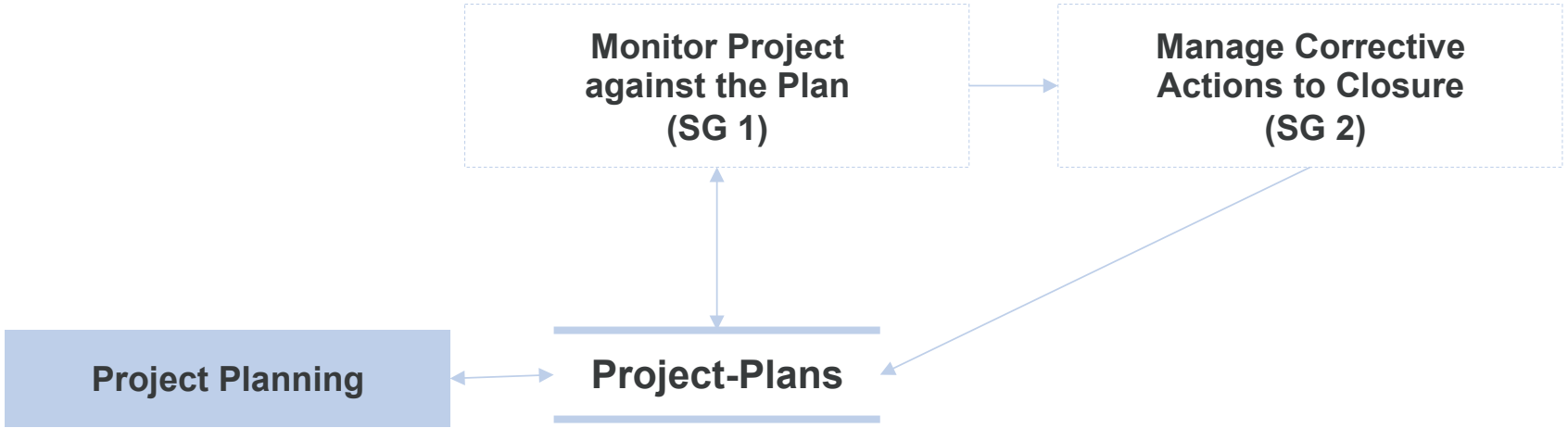
Project Management

Project Monitoring and Control (PMC)

wibas

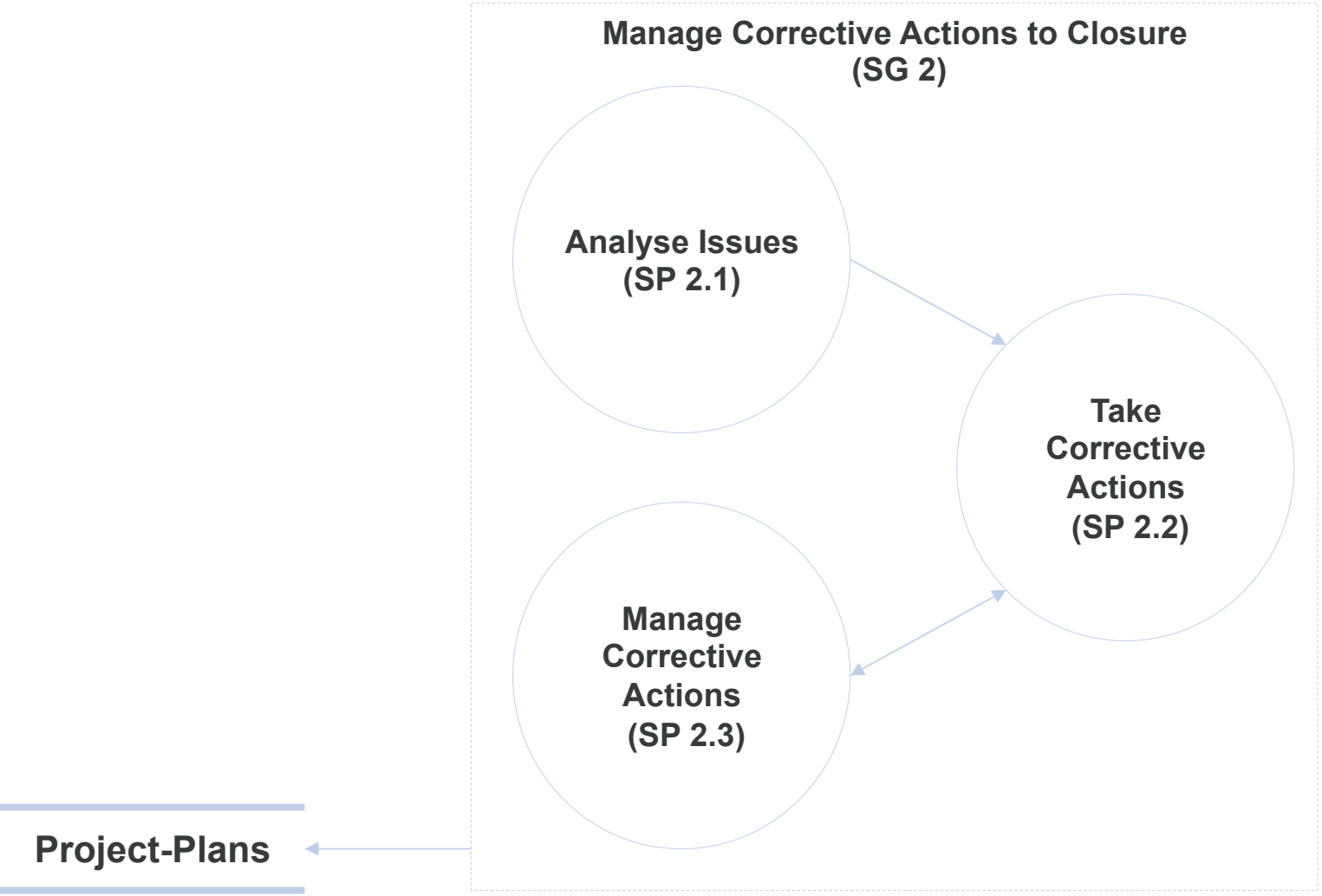
Project Monitoring and Control in CMMI

Provide understanding of the project's progress so that appropriate corrective actions can be taken when the project's performance deviates significantly from the plan.



Actual performance and progress of the project are monitored against the project plan.

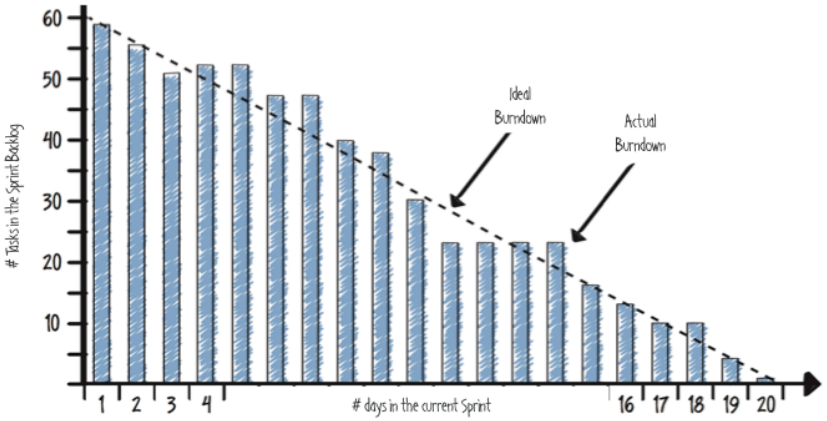
Corrective actions are managed to closure when the project's performance or results deviate significantly from the plan.



Project Monitoring and Control is necessary to identify corrective actions so that the project stays on track.

Why do we do it?

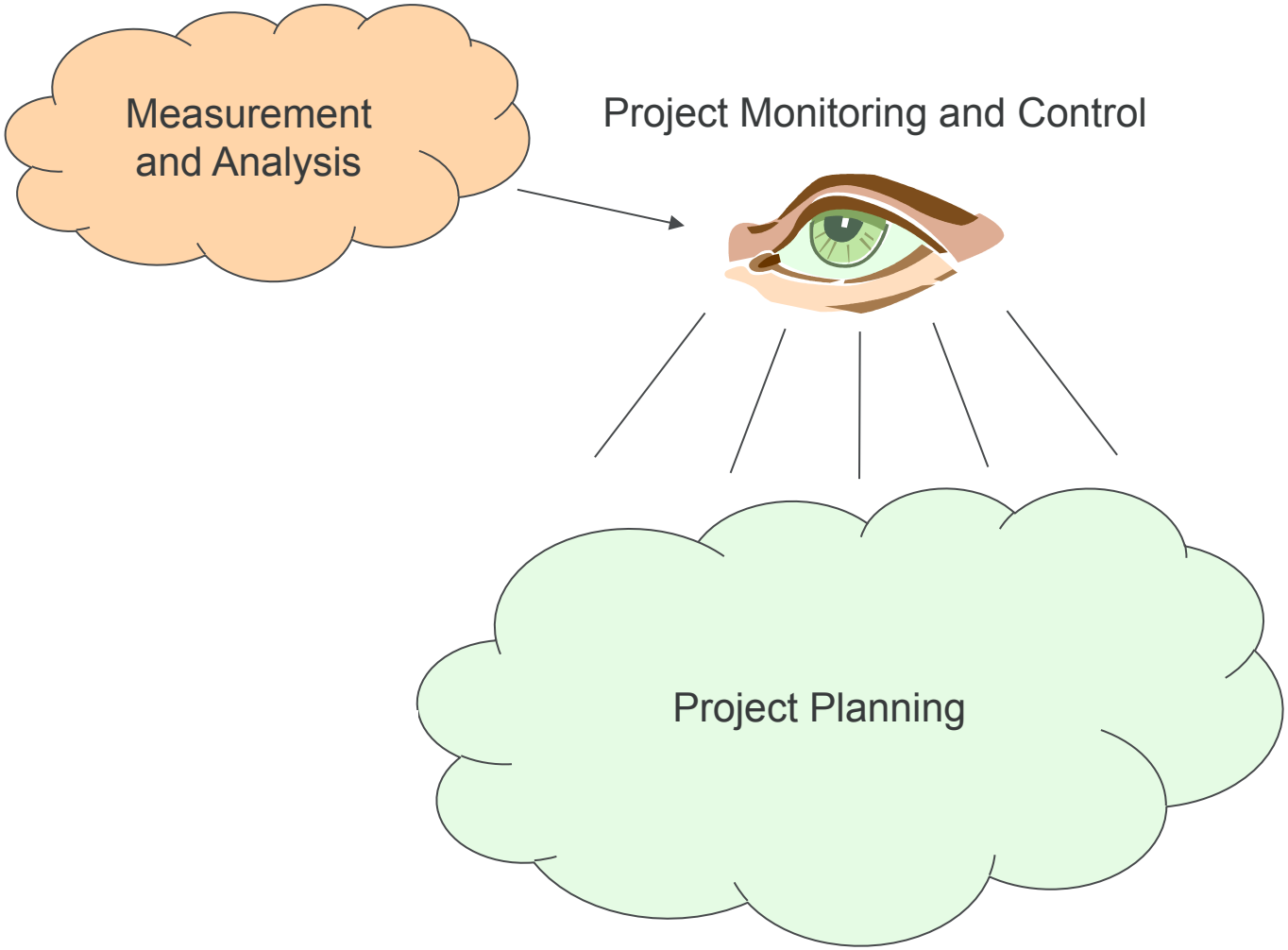
- Provide an understanding of the project's progress
- Identify appropriate corrective actions
- Provide transparency for all stakeholders



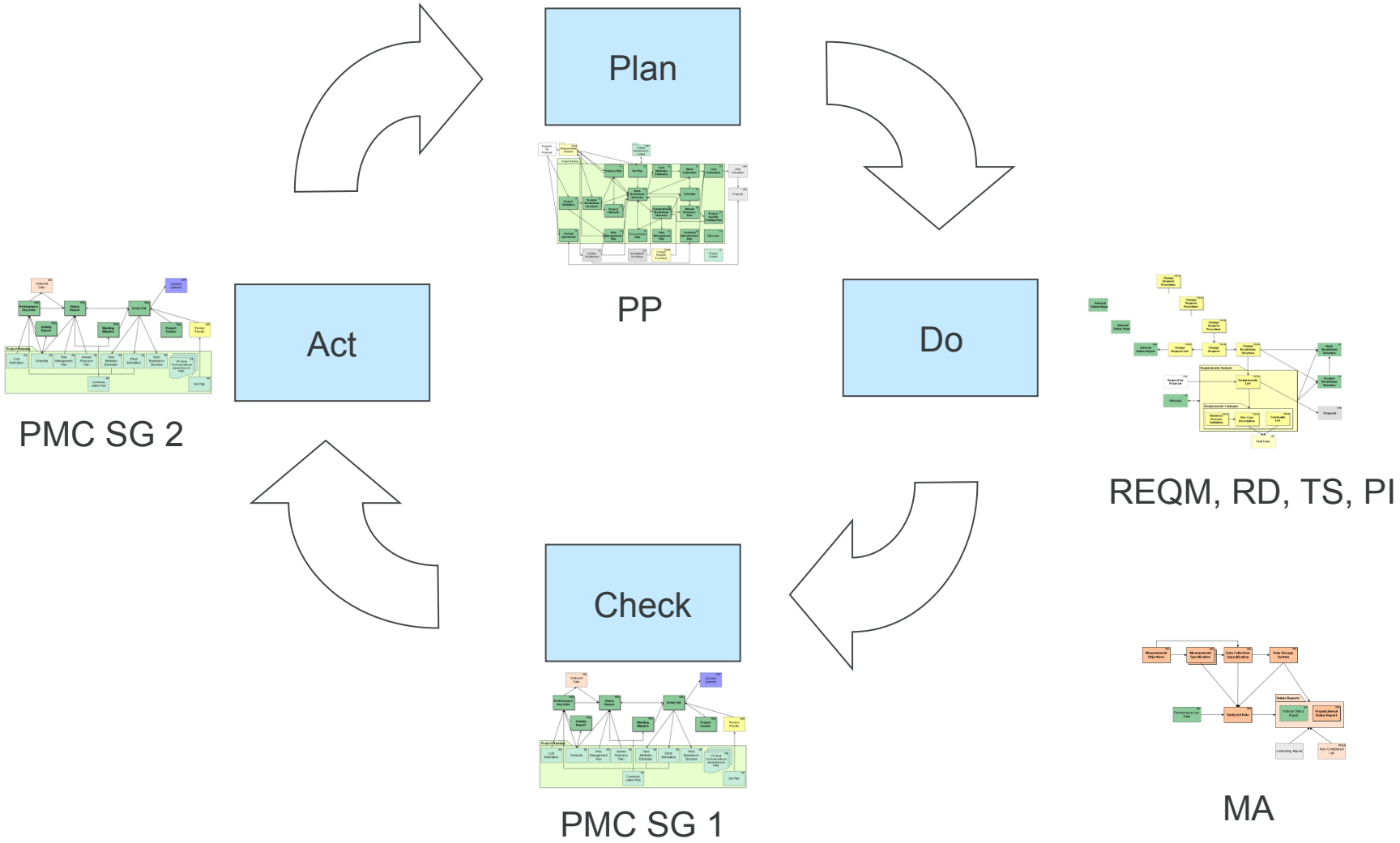
Advice and Guidance

- Control the project, not the people
- Use Measurement and Analysis guidance to come up with useful measurements for the project's progress
- Project Monitoring and Control is about transparency, not about reports
- Only an up to date plan is a plan – so update continuously

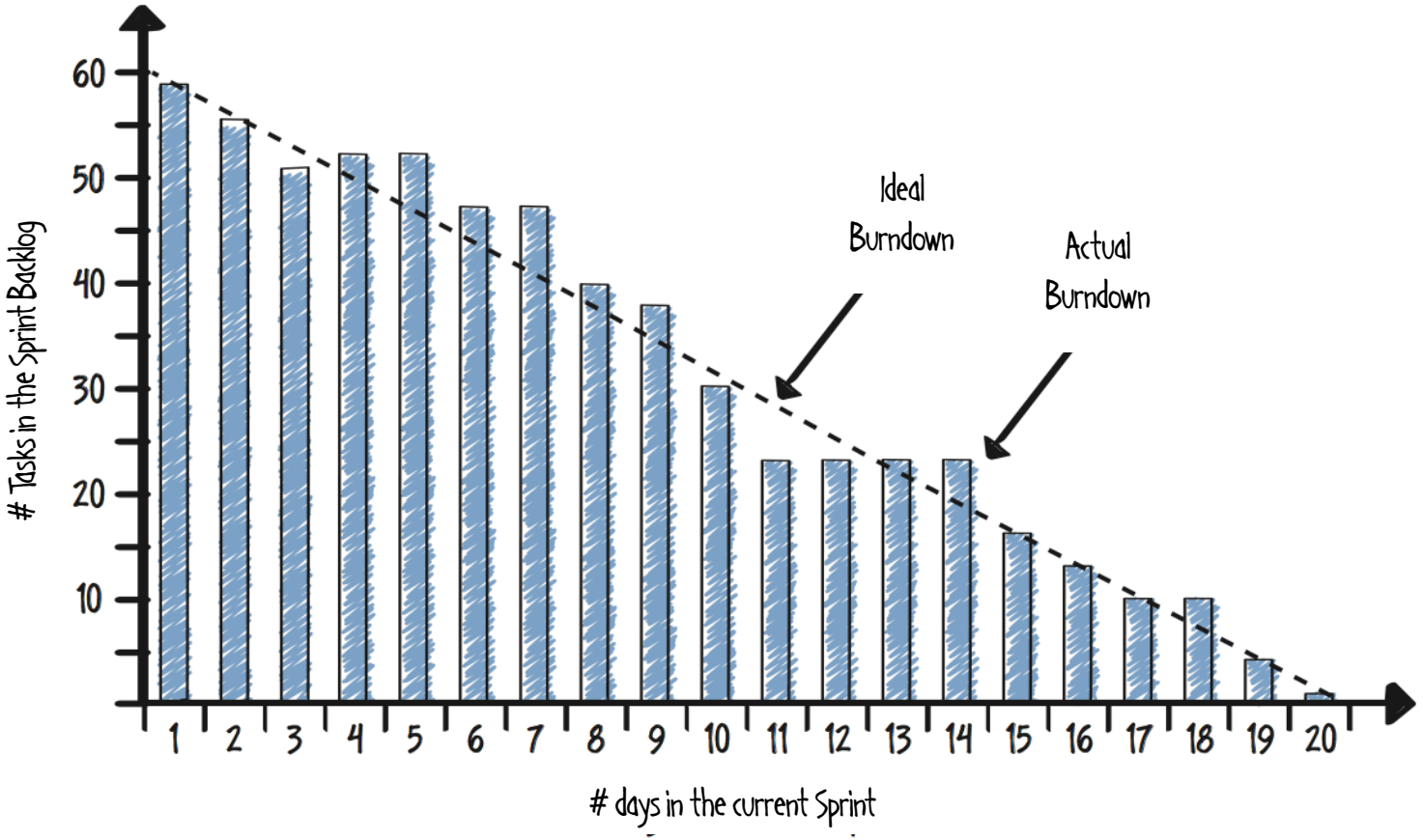
Project Monitoring and Control is done throughout the life cycle. Measurements help to provide transparency.



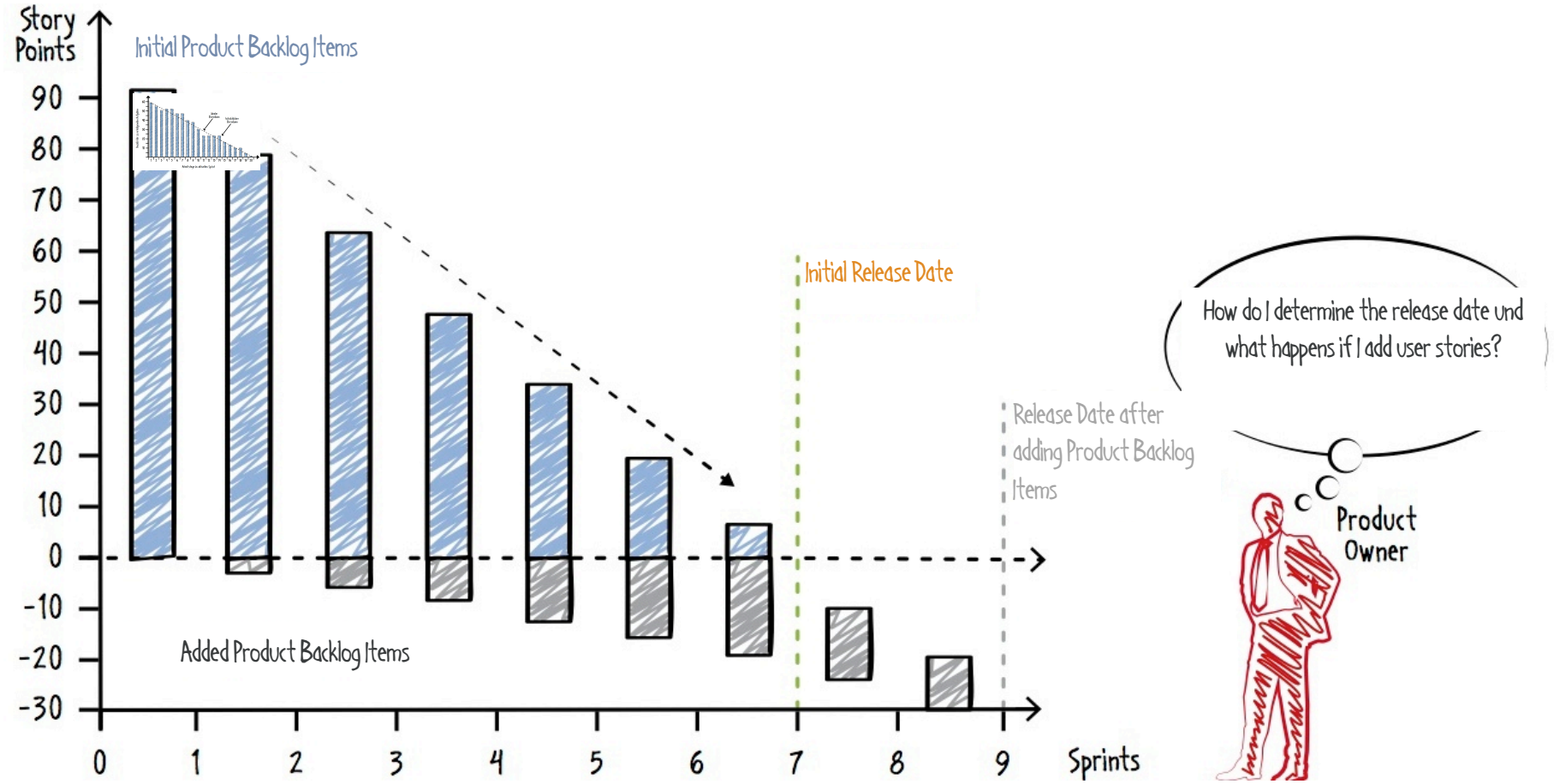
Project Monitoring and Control is a key element of the Plan-Do-Check-Act control circuit



The Sprint Burndown is a technique to make the progress in a Sprint transparent.



The Release Burndown is a technique to make the progress of the release transparent.



Understand the velocity to make forecasts.

The velocity

- Forecast how many story points fit into a Sprint
- Helps the Scrum Team to estimate the capacity of the Sprint
- Helps the Scrum Team to understand if improvements directed at the efficiency have an effect

There are several ways to calculate velocity:

- Very Simple

$$\text{VELOCITY} = \sum \text{STORY POINTS LAST SPRINT}$$

- Moving Average per Sprint

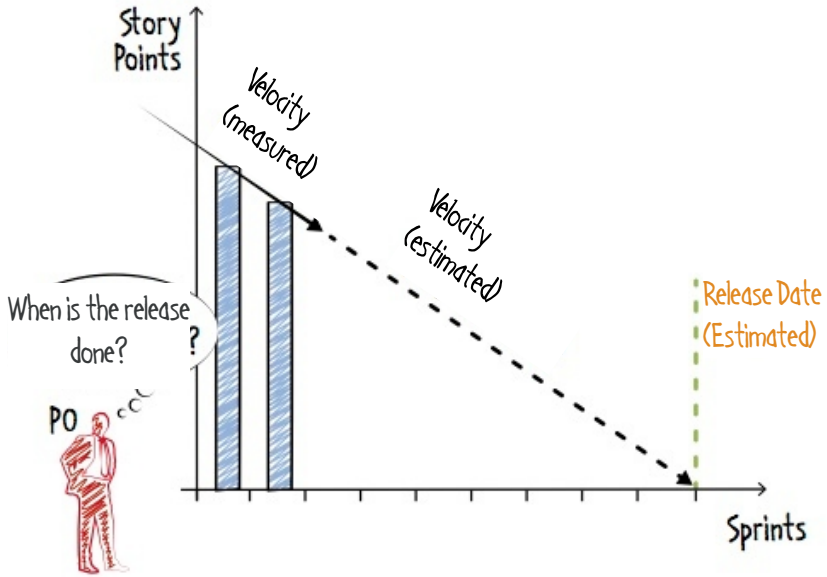
$$\text{VELOCITY} = \frac{\sum \text{STORY POINTS OF LAST } n \text{ SPRINTS}}{n}$$

- Average per Person Day

$$\text{VELOCITY} = \frac{\sum \text{STORY POINTS LAST SPRINT}}{\sum \text{PERSON DAYS LAST SPRINT}}$$

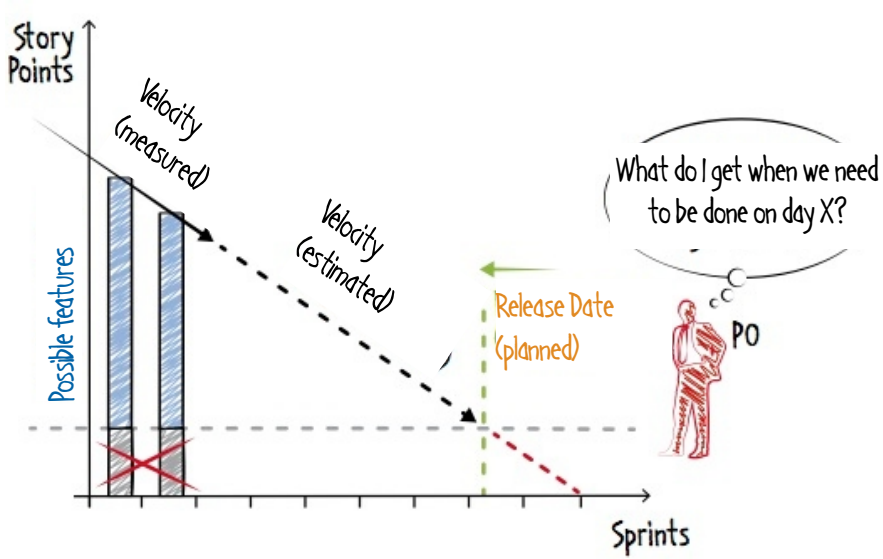
Forecast the release date. When can we ship?

- Continue the current average velocity until it crosses the x-Axis.
- This is the forecasted release date.
- It is smart to factor in a cone of uncertainty – after all the average velocity is likely to change.
- If the Product Backlog of the release grows in story point, the x-Axis drops (see Release Burn Down) and the release date moves further to the future.



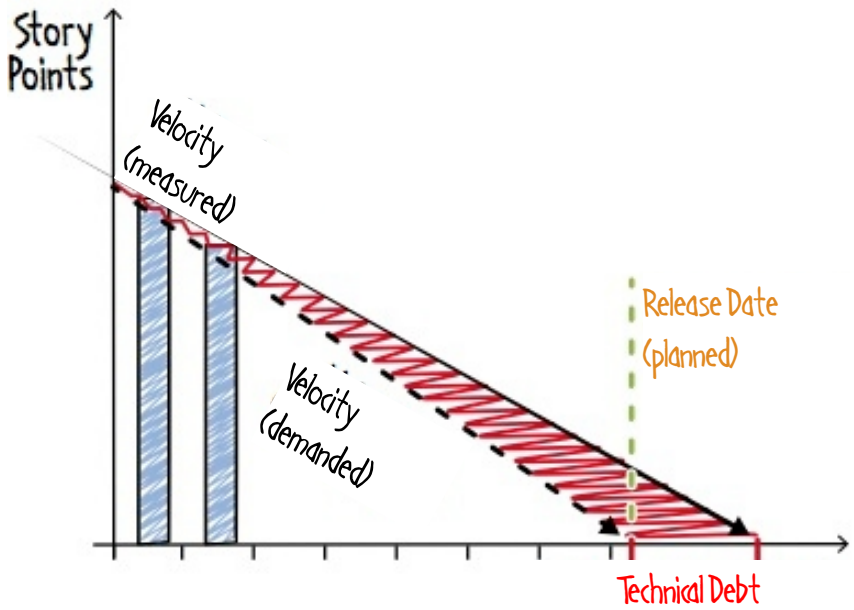
Forecast the stories of a release. Which stories can we ship?

- Continue the current average velocity until it crosses the x-Axis.
- Draw a vertical line trough the x-Axis where the planned release date is. Where this line crosses the velocity, draw a horizontal line.
- The horizontal line crosses the y-Axis. This is the forecast of the amount of stories that fit into the release.

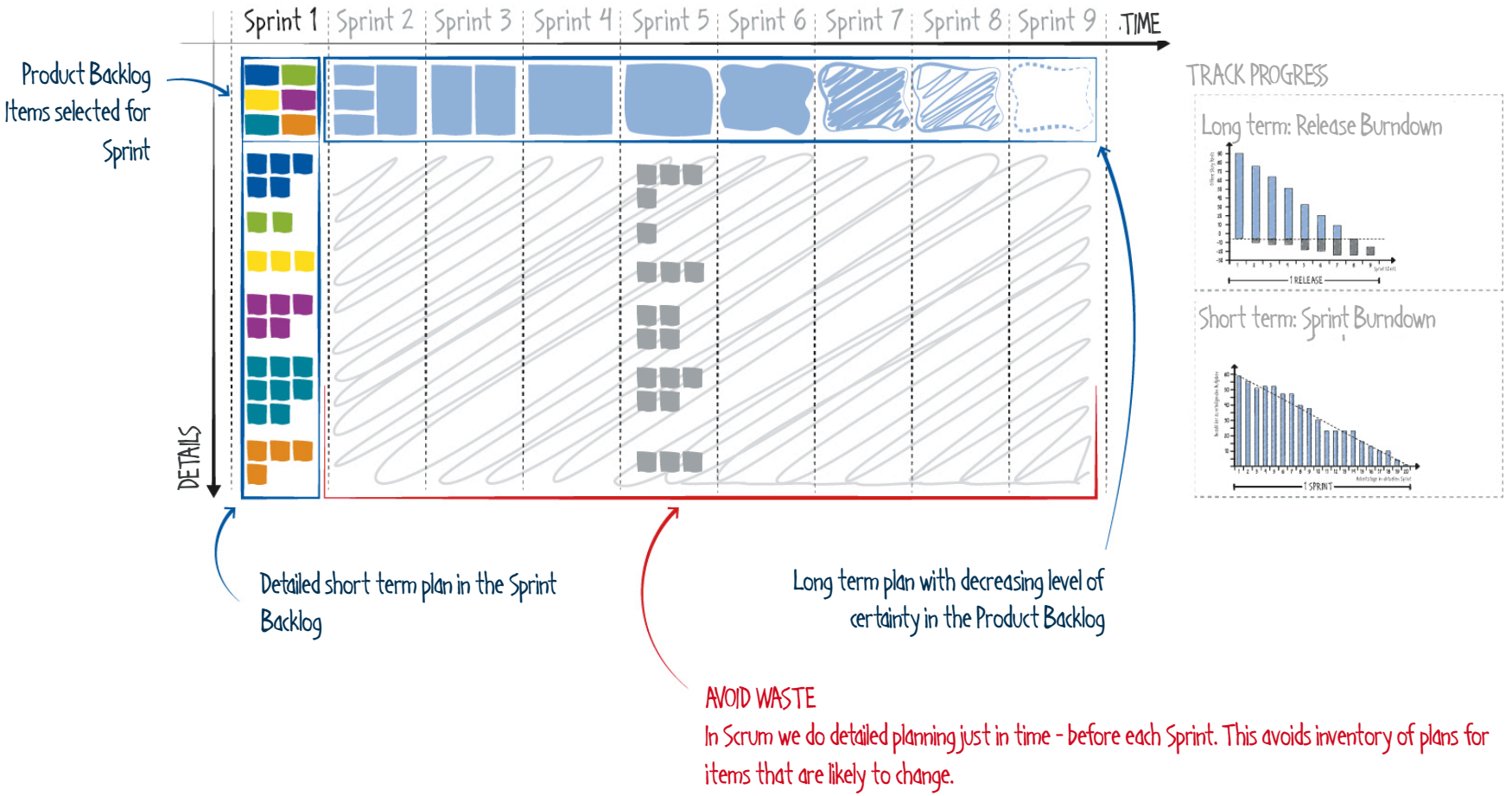


Avoid technical debt. You will have to pay for it – with interest.

- If against facts and data a release date is required that does not fit with the actual velocity, technical debt will occur.
- In order to meet the necessary velocity, quality criteria of the Definition of Done must be dropped.
- This means: the teams delivers Increments that are not actually done.
- The team creates technical debt: tasks that still need to be done though the release is declared “shippable”.
- Building an inventory of debt is waste. Fixing later comes with a hefty interest, endangering the ROI of the product.



The Product Backlog is an overall long term plan. The Sprint Backlog is a detailed short term plan. Scrum discards a detailed long term plan because it is – in Lean thinking – waste.



wibas

Project Monitoring and Control in Scrum

CMMI SG 1 Actual performance and progress of the project are monitored against the project plan – in Scrum

CMMI	Scrum
PMC.SP 1.1 Monitor Project Planning Parameters	The Team monitors the Sprint Backlog and the Sprint Burndown daily. The Product Owner maintains the Release Burndown in the Sprint Review.
PMC.SP 1.2 Monitor Commitments	The Team monitors the commitment of the team members during Daily Standup. Other commitments are not addressed by Scrum.
PMC.SP 1.3 Monitor Project Risks	The Scrum framework does not explicitly address risks.
PMC.SP 1.4 Monitor Data Management	The Scrum framework does not explicitly address data management.
PMC.SP 1.5 Monitor Stakeholder Involvement	If specific tasks for stakeholder involvement are needed, they are part of the Sprint Backlog and the Team tracks them with all other tasks.
PMC.SP 1.6 Conduct Progress Reviews	The Team monitors the progress of the work during Daily Standup.
PMC.SP 1.7 Conduct Milestone Reviews	The Team and the Product Owner review the Product Increment during the Sprint Review. The Team and the Product Owner review the way of work during the Sprint Retrospective.

CMMI SG 2 Corrective actions are managed to closure when the project's performance or results deviate significantly from the plan – in Scrum

CMMI	Scrum
PMC.SP 2.1 Analyze Issues	Team, Product Owner and ScrumMaster identify issues (in Scrum they are called "impediments") during Daily Standup, Sprint Review and Sprint Retrospective.
PMC.SP 2.2 Take corrective action	ScrumMaster and Team maintain the Impediments in the Impediment Backlog or in the Sprint Backlog. The ScrumMaster facilitates the necessary actions to remove the impediments throughout the Sprint.
SP 2.3 Manage corrective actions to closure.	ScrumMaster and Team track the Impediments in the Impediment Backlog or in the Sprint Backlog.

Turning Visions
into Business.

wibas

Mitglied im
Bundesverband Deutscher
Unternehmensberater BDU e.V.

Germany
Otto-Hesse-Str. 19
64293 Darmstadt
+49 6151 503349-0
www.wibas.de

The Netherlands
Sprookjesbosch 53
5629 JB Eindhoven
+31 4024 89822
www.wibas.nl

Switzerland
Bahnhofstr. 29
9471 Buchs
+41 41 51122-90
www.wibas.ch

» www.wibas.com

Revision History

Rev. #	Status	Date	Description	Responsible
1.0	Finished	15.10.2004	Initial version	Malte Foegen
1.1	Finished	22.01.2006	Updated layout	Malte Foegen
1.2	Finished	23.12.2007	Updated layout	Malte Foegen
1.3	Finished	19.01.2008	Added formula overview for Earned Value	Malte Foegen
1.4	Finished	07.02.2009	Updated exercises	Malte Foegen
1.5	Finished	18.01.2010	Updated layout	Malte Foegen
1.6	Finished	03.02.2012	New Exercise	Malte Foegen
1.7	Finished	05.02.2012	Added TAC	Malte Foegen
1.8	Finished	23.03.2012	Corrected TAC formula	Malte Foegen
1.9	Finished	25.01.2014	Added Scrum Slides, Added Case Study	Malte Foegen
1.10	Finished	21.01.2015	Added scrum – cmmi, update layout	Malte Foegen
1.11	Finished	20.02.2016	Small updates	Malte Foegen