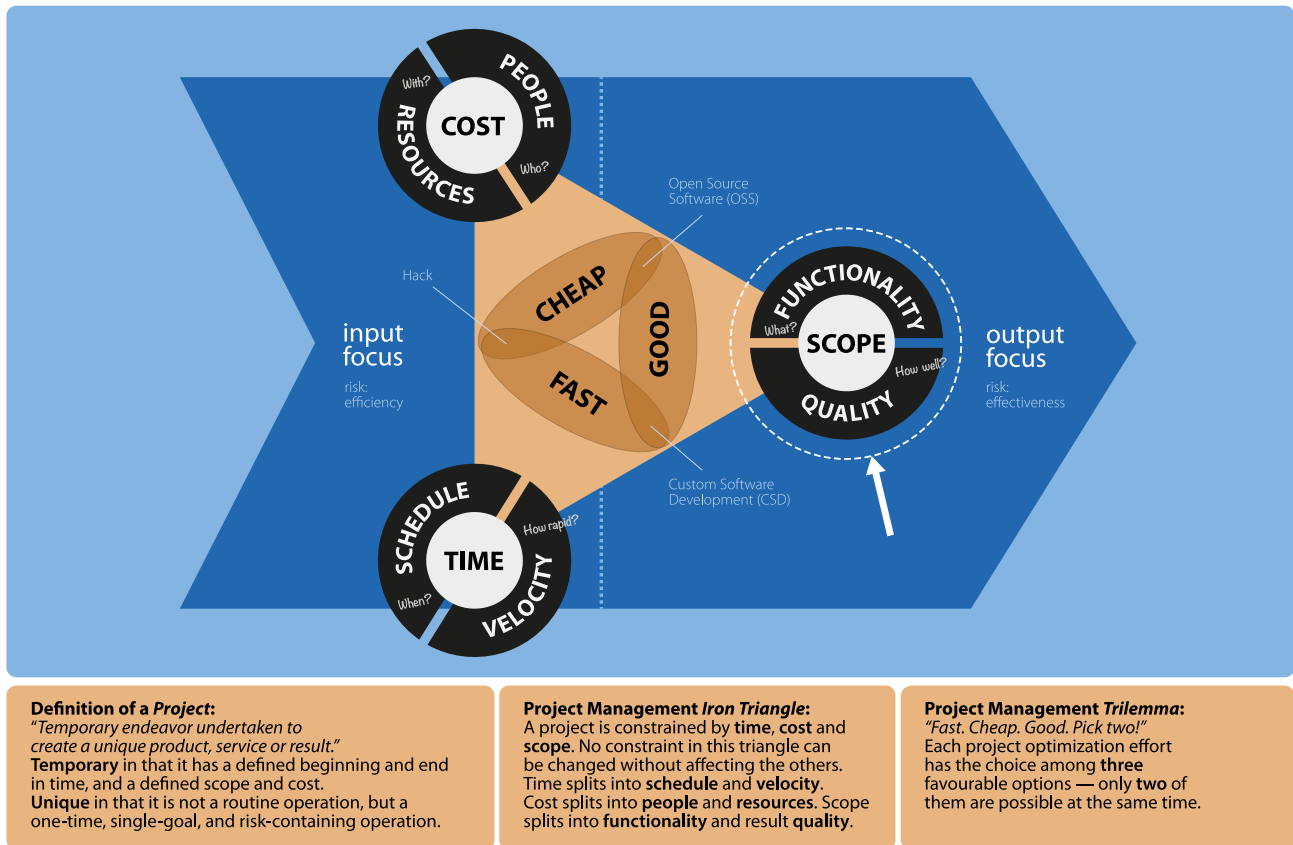




# **Software Engineering in der industriellen Praxis (SEIP)**

**Dr. Ralf S. Engelschall**



**Project Management**, alongside **Software Architecture**, is the second important Discipline in the field of **Software Engineering**. Therefore everyone should have at least a basic understanding of the essential task of Project Management: continuously finding the balance from the “Iron Triangle” of **Time**, **Cost** and **Scope**.

The adjusting screw **Time** is divided into the two aspects **Schedule** (When?) and **Velocity** (How rapid?). The adjusting screw **Cost** is divided into the two aspects **People** (Who?) and **Resources**. (With?). The adjusting screw **Scope** is divided into the two aspects **Functionality** (What?) and **Quality** (How well?).

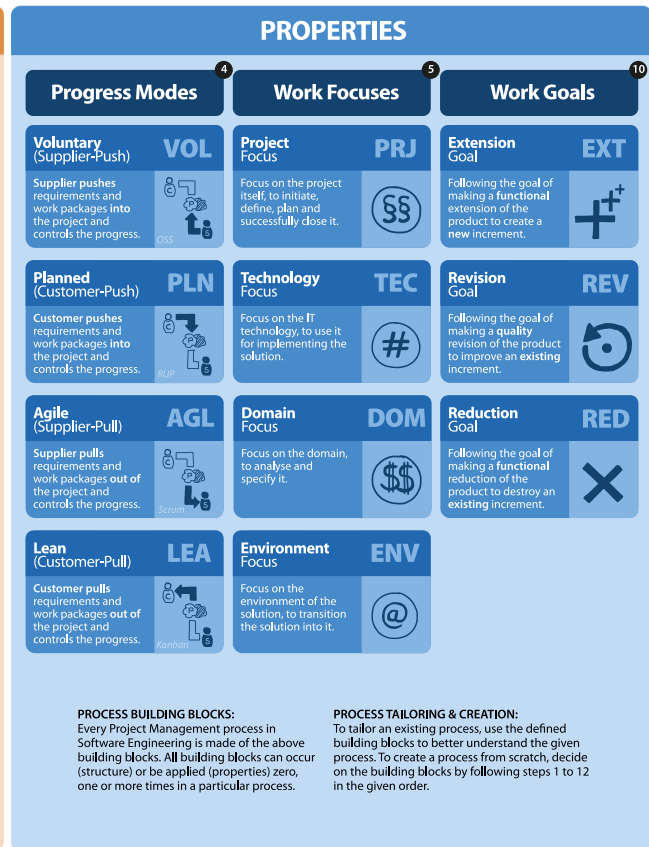
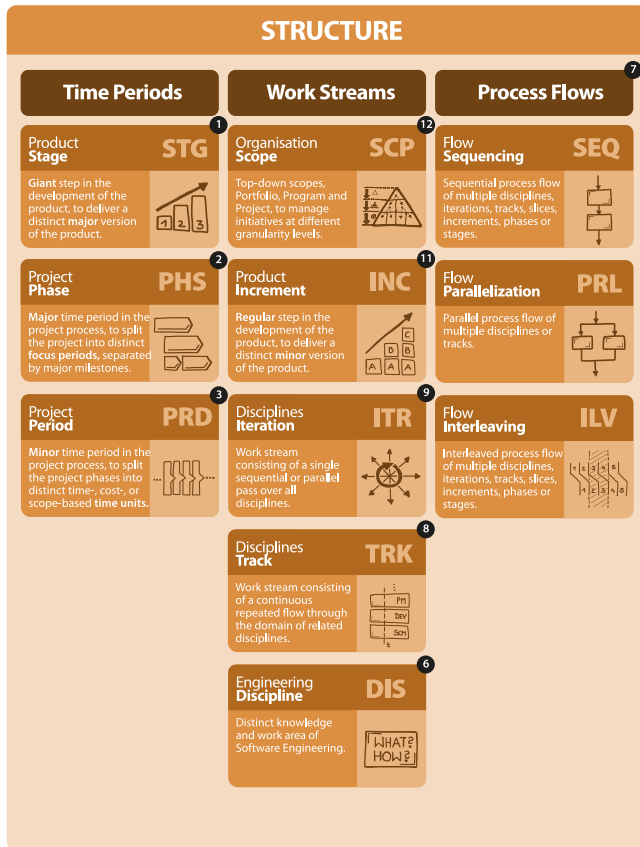
If a change is made to one of the three adjusting screws or one of the six aspects, the “Iron Triangle” will be unbalanced, and one must inevitably change one or more of the other screws or aspects to restore the balance.

Also worthy of mention is the **Trilemma**, which says that one can usually have only two out of three things at a time: either cheap and good (Open Source Software), but not fast; or good and fast (Custom Software Development), but then not cheap; or fast and cheap (the “Quick Hack”), but then not good.

In practice, the non-Project-Managers are co-responsible, especially in the area **Scope**, since here a change in the project usually requires a deeper technical understanding of the Application.

## Questions

- ❓ At which adjusting skew of **Project Management** in practice are the non-Project-Managers co-responsible?



Every Project Management process in Software Engineering is made out of the same set of building blocks. All building blocks can occur (structure) or be applied (properties) zero, one or more times in a particular process.

To tailor an existing process, use the defined building blocks to understand the given process better. To create a process from scratch, decide on the building blocks by following steps 1 to 12 in the given order.

## Questions

- ❓ Is a special Project Management Process in Software Engineering crucial?