adaptive planning, allows step-by-step development and can deliver solutions early. Continuous improvement and the ability to respond to change in a rapid and flexible way characterize this approach.

Agile software development often makes use of the so-called scrum method, an iterative and incremental approach, as opposed to the more traditional, sequential approach. Development teams normally work as a unit to reach a common goal. Within the scrum team, however, each member works independently on his or her set tasks to reach the team goal, which is set by the project leader.

The method subclassifies each development task into single time taks, which are called sprints. The sprints usually vary from as few as five to as many as 20 workdays. Each sprint starts off with a planning event to define the task board and ends with a review meeting. Each day during the sprint, the project team holds a daily scrum meeting to communicate achievements, problems, solutions and additional plans. This process creates a coherent workflow for self-dependent development processes.

The scrum master acts as a coach. She makes sure the scrum method is implemented successfully and sprint goals are reached. She doesn't delegate direct work orders, instead coordinating the teamwork, taking care of personal issues within the team and acting as a communication device between the project leader and the scrum team.

The scrum master tries to protect the team from external distraction. Specifying a sprint cycle time as the control unit rather than a defined task or workload supports a paradigm change from the question “How much time per task?” to the question “How much task per time?”

Transferring this concept of agile software development to the field of product development can help your organization evolve an agile product development process, as depicted in Figure 2.

An example of a gas turbine manufacturer shows how agile product development can be implemented by defining sprints.

The department of systems engineering works as a single unit, operating as the interface between product development and sales. The company is predicting an increase in product development and sales. The systems engineering department was not going to handle all of the necessary tasks. This was necessary because the systems engineering department was not going to handle all of the necessary tasks.

Then the project team designed an iterative project plan to synchronize the project management process. Based on the identified process steps and synchronization points, the scrum master introduced sprints with defined takt times rather than defined workloads. The scrum master chose a takt time of seven days. The results led to the introduction of synchronization points that were both internal to the scrum team and external synchronization points for other departments. This was necessary because the systems engineering department was not going to handle all of the necessary tasks.

A takt board, which fits the length of a takt, supported and simplified the implementation of takt-timing and planning.