**How to Truly Scale Agile Development in the Enterprise—with CMMI**

Over the past few years, [agile development](https://cmmiinstitute.com/news/blog/big-agile-requires-strong-leadership%E2%80%94just-not-the) has transformed from a niche concept to a standard practice adopted by many large companies worldwide. Accelerating software development through small, self-managing teams is now an accepted strategy – and is increasingly seen as a key to innovation and competitiveness. Nearly 90 percent of organizations use agile concepts in development teams to some extent, according to one survey.[[1]](#endnote-1) Today, agile techniques are spreading beyond the realm of software development as companies seek to infuse greater agility into the whole organization and its culture.

Despite agile’s growing popularity, companies continue to run into problems when they try to scale the use of agile software development across the enterprise. While agile can be extremely effective for small, individual, self-managed projects, it’s difficult to coordinate the multiple projects and teams that are needed to build larger, more-complex products and systems. As a result, companies suffer many of the same headaches that they experienced with earlier software development methodologies, such as integration and interface issues, a failure to adequately address all requirements, missed deadlines and quality deficiencies.

So as the use of agile expands, so does the need for complementary best practices that enable companies to overcome these issues. [CMMI (Capability Maturity Model Integration) V2.0](https://cmmiinstitute.com/cmmi) provides these best practices, helping organizations build mature processes that control the complexities and risks of applying agile to large developments.

**How CMMI V2.0 Helps Agile Scale**

CMMI is an integrated set of best practices for improving business performance. Many companies have used CMMI and agile development together for years; a 2017 survey found that 80 percent of companies that use CMMI also use agile. But CMMI V2.0, the newest version, enhances the synergy between the two, adding direct guidance for building scale and resiliency into agile development.

CMMI V2.0 specifically addresses the challenges that companies encounter when trying to scale agile, such as accurately estimating development timescales and resources, integrating the components of a system, and maintaining quality. It also supports a broad range of other processes that can be critical to success, such as managing and delivering services and selecting and managing suppliers. In addition, it is expanding to cover more areas, including security. It focuses not only on improving performance, but on sustaining the habits and processes that ensure enterprises maintain that performance over time. CMMI V2.0 provides these critical advantages while minimizing overhead, because it lets you pick and choose only the practice areas that meet the unique needs of your business.

The comprehensive and holistic reach of CMMI is key to successfully scaling agile development—and it contrasts sharply with other approaches that attempt to support agile at scale. Typically, these methods partially address some of the challenges and completely fail to address others. An example is SAFe (Scaled Agile Framework), which lacks key elements in critical areas such as software quality, design and integration, managing services and suppliers, planning and managing work, managing business resilience, and sustaining performance.

**Solving Integration Problems**

Let’s take a closer look at some of the ways that CMMI helps organizations successfully apply agile development at scale. Two areas where organizations often run into trouble are project estimation and product integration. CMMI provides robust estimation practices that support the agile approach of building large, complex systems from many small components. It also helps you ensure that you design each component of the system so that it can be integrated with other components later.

At most organizations, multiple teams develop the components of a system in rapid sprints. Large-scale systems may involve many individual sprints, each generating components that must then be integrated. Agile projects often don’t adequately address this at the design and requirements stage, and as a result many software development organizations run into big problems related to the interfaces and integration between components. If you have two development teams conducting agile sprints to produce different components, how do you know those components will integrate at the end of the sprints? If you haven’t defined in advance how components will fit together, you’re building each one in a vacuum.

CMMI provides a robust framework that helps companies define the interfaces and integration needs at the initial requirements and design stages, and then track and test them through the individual sprints across the entire development. Without CMMI, the ability to ensure trouble-free integration depends solely on the team’s experience. Expert developers may have the foresight and expertise to ensure components will integrate down the road – but anyone less experienced may lack that critical knowledge, even if they’re able to quickly crank out good code. The best practices in CMMI essentially elevate the team’s expertise, enabling the team to catch potential problems that it might otherwise miss.

By supporting important but routine project tasks like estimation and integration, CMMI frees developers to focus on what they’re really paid to do – tackle the difficult and interesting challenges of innovating new features. And because CMMI provides a common framework for all development projects, it also makes it much easier to move staff between projects, which increases organizational agility. As one project winds down, CMMI makes it much easier for those developers to pivot to a different project and hit the ground running.

**Avoid Agile Chaos with CMMI**

Without mature processes for coordinating multiple groups and many individual sprints, attempts to scale agile development can easily lead to chaos. CMMI uniquely provides a comprehensive business performance framework that can be used across the entire organization, so companies can better coordinate projects, integrate complex systems, and deliver higher-quality software faster.

1. *How Agile and DevOps enable digital readiness and transformation*, Freeform Dynamics and CA Technologies, February 2018;

   https://www.ca.com/content/dam/ca/us/files/msf-hub-assets/research-assets/how-agile-and-devops-enable-digital-readiness-and-transformation.pdf [↑](#endnote-ref-1)