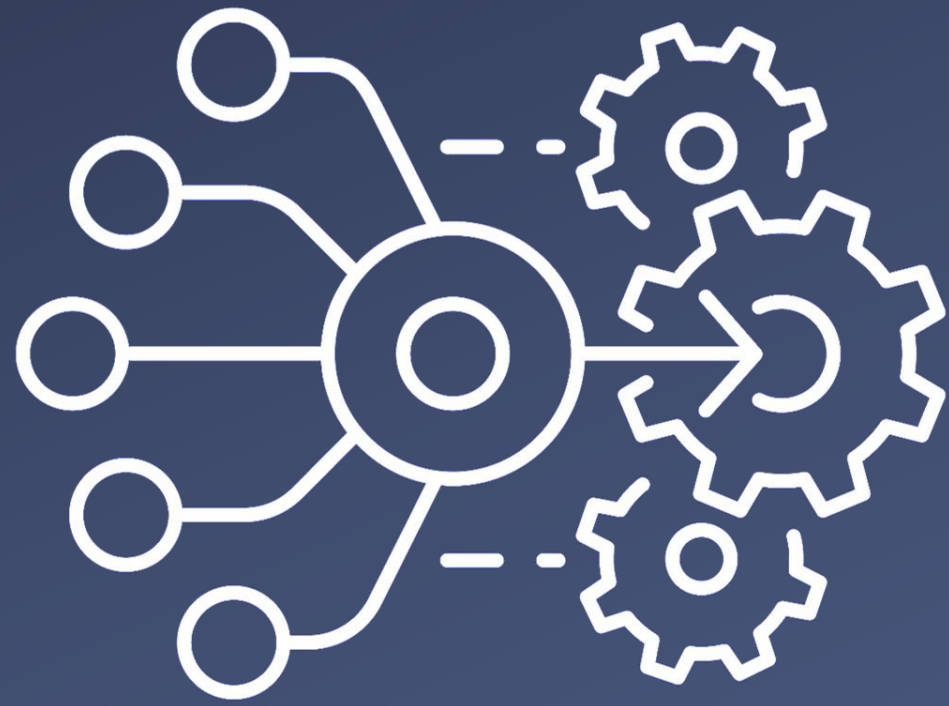



Integration plan

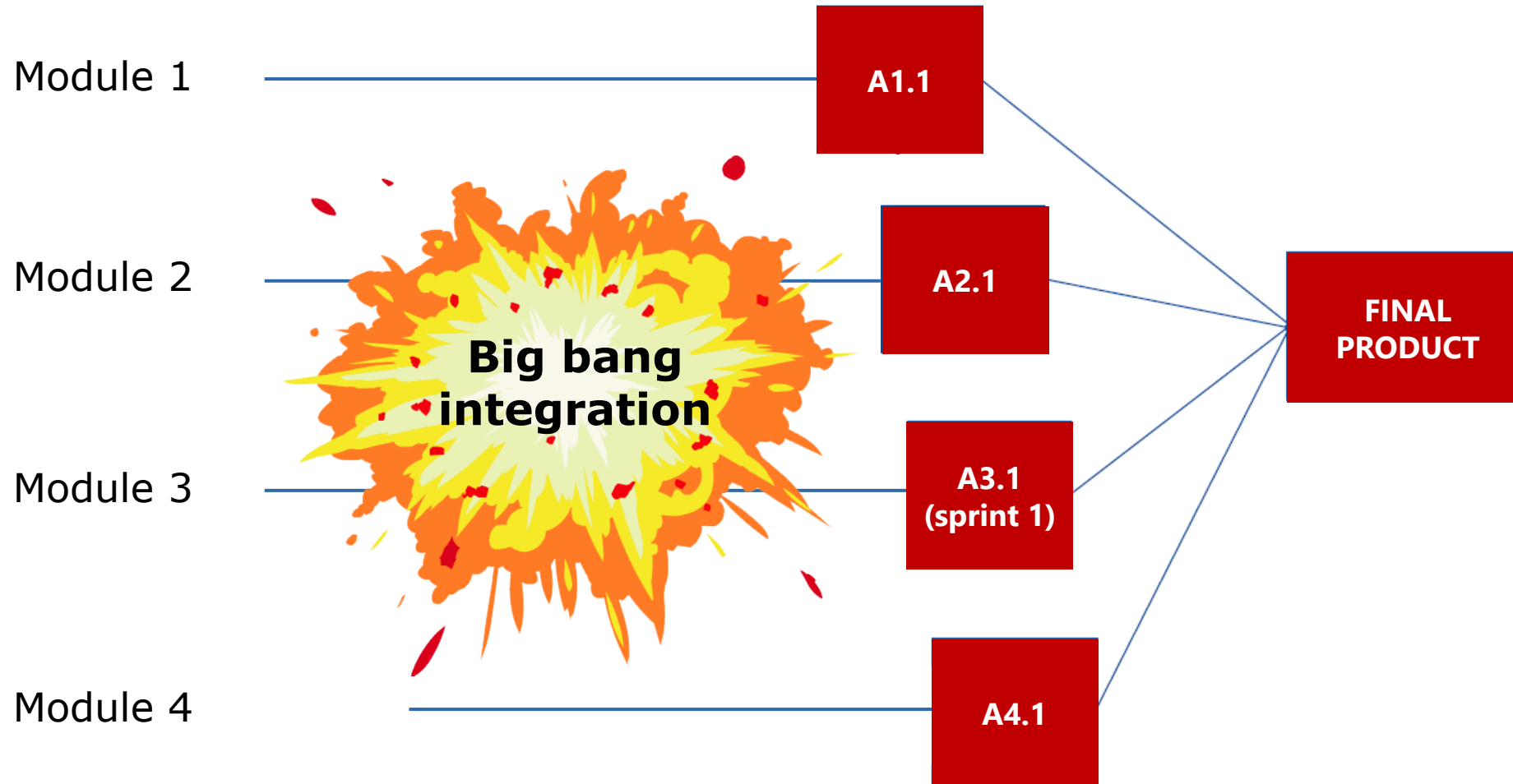


Preventing big bang integration

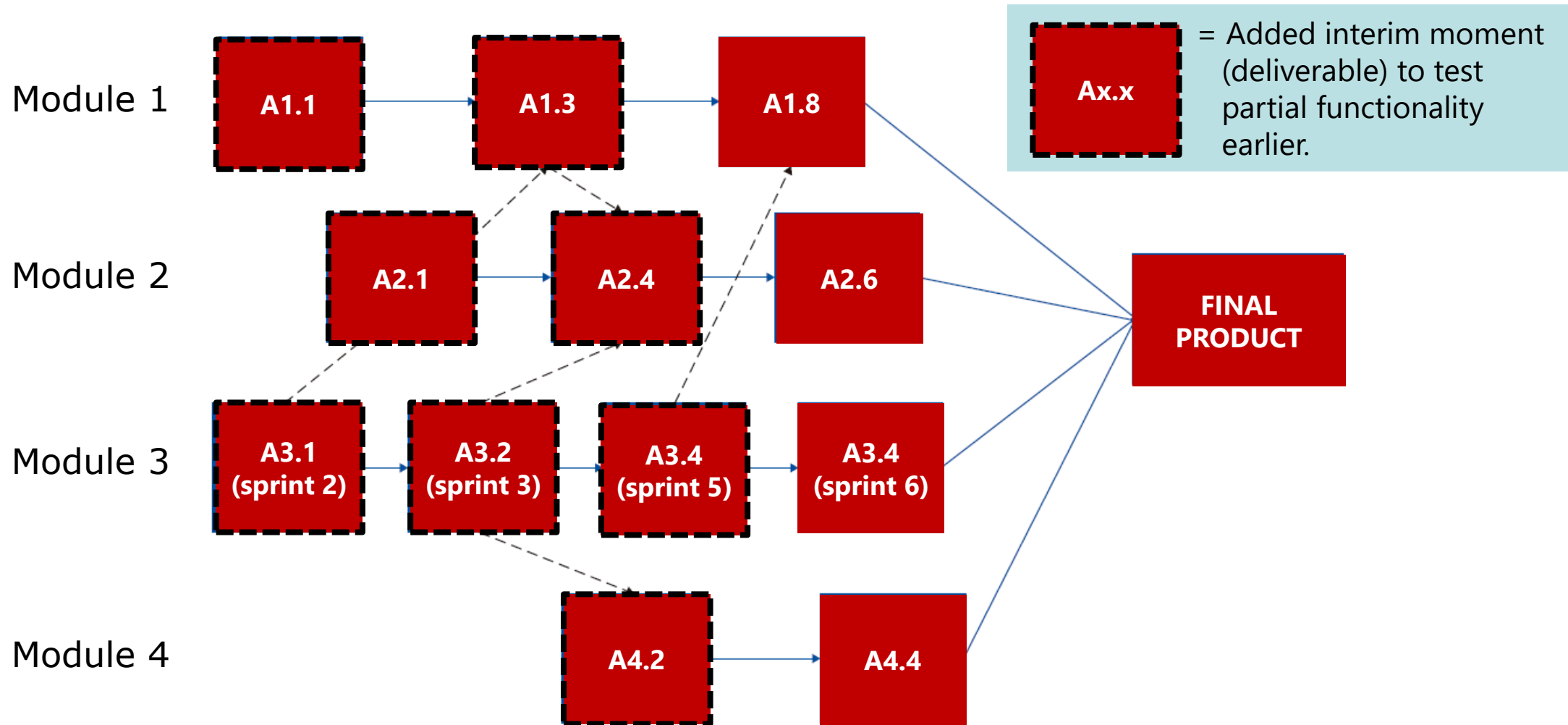
If you want to **prevent** the **system integration** from becoming a **confusing big bang** plagued by problems that are hard to identify, it is important to build up and test the system one step at a time during integration testing. **You start with module tests, before integrating more and more components from the bottom up.** This results in testable interim steps and allows you to combine quality with quality. System integration requires a **detailed integration plan**, either as part of the project management plan or as a separate subproject plan.

See the next slide "Integration as a big bang." As you can see, the initial integration diagram usually only leads to the simultaneous integration of all subproducts at the end of the project. This is also known as big-bang integration (note the continuous arrows). For a proactive project manager, this is not good enough. The trick is **to create moments earlier on** at which subproducts can be tested together (the dotted arrows in the figure). This may require modifications of the specifications of subproducts or even additional PBS elements (). However, this extra effort is worth it because **the risks involved in the integration are reduced.**

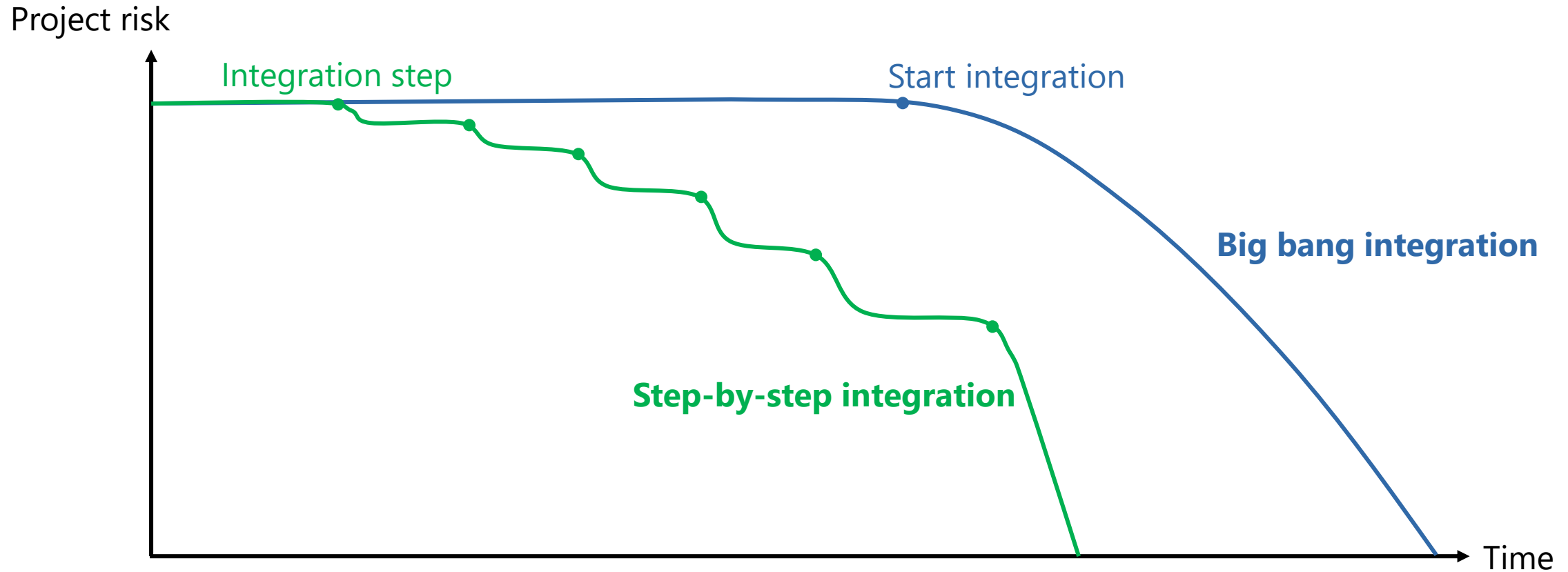
Integration as a big bang



Integration in smaller steps

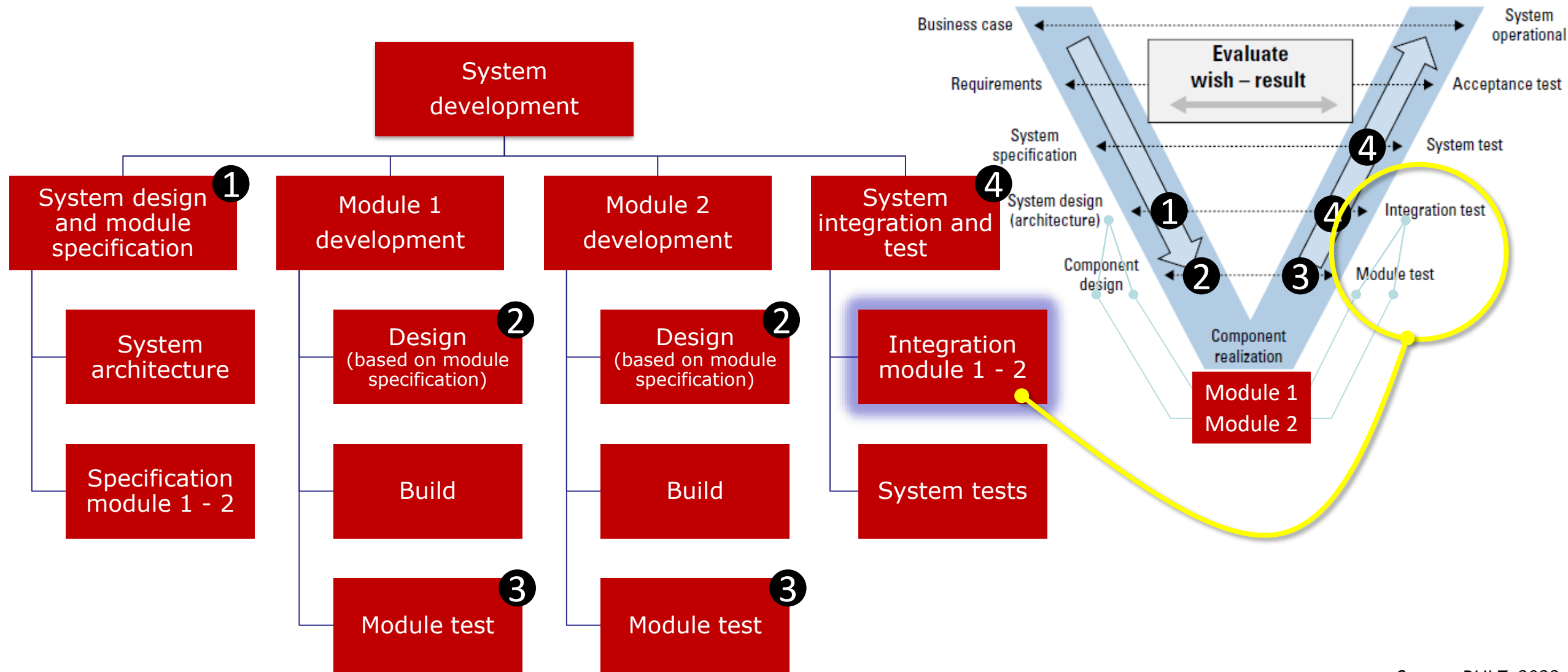


Risk reduction big bang and step-by-step integration



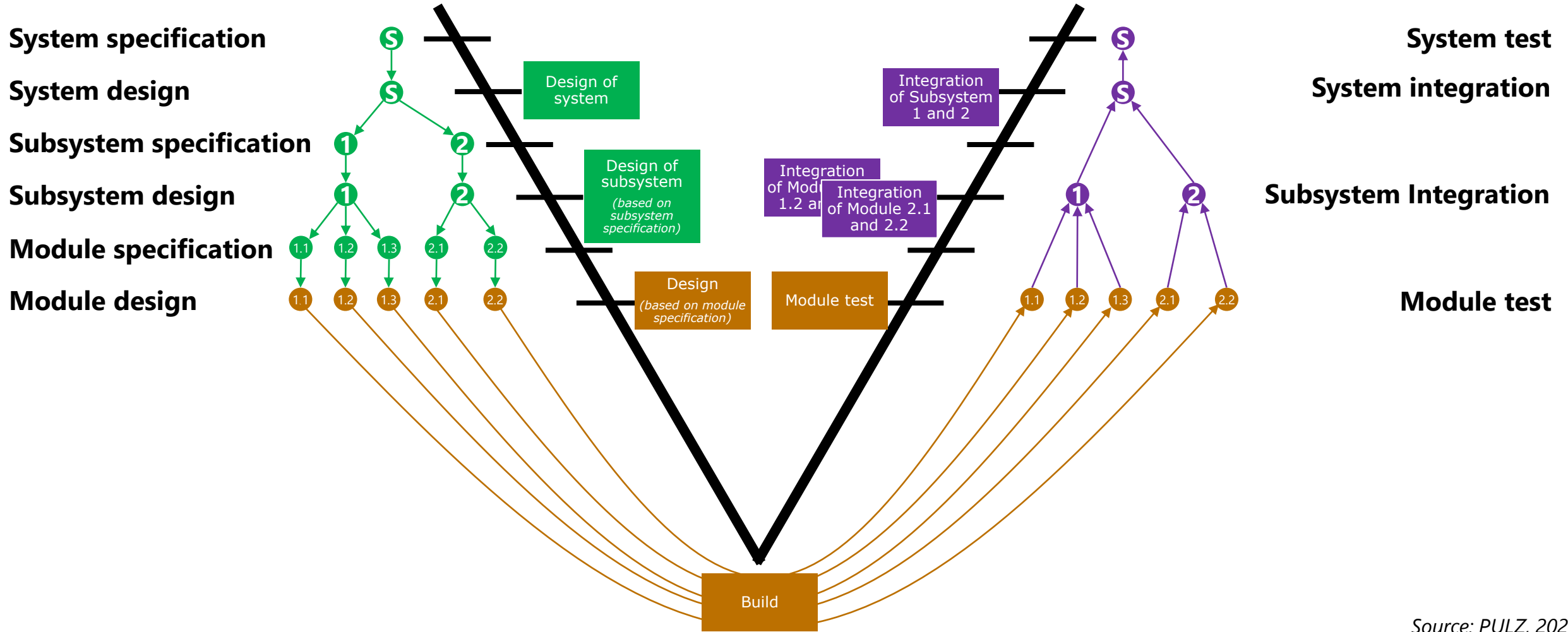
Source: PULZ, 2022

The additional steps fit under 'Integration module'



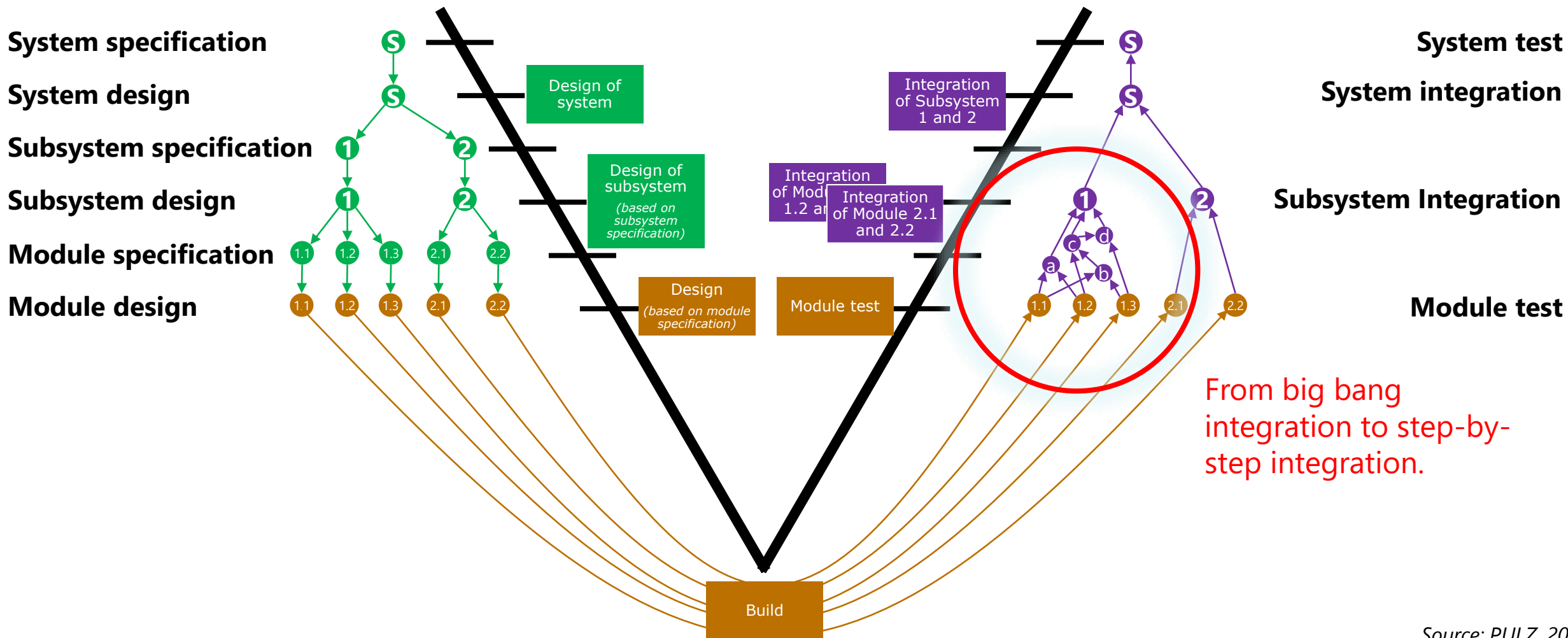
Source: PULZ, 2022

Design and integration of system, subsystems and modules: big bang integration

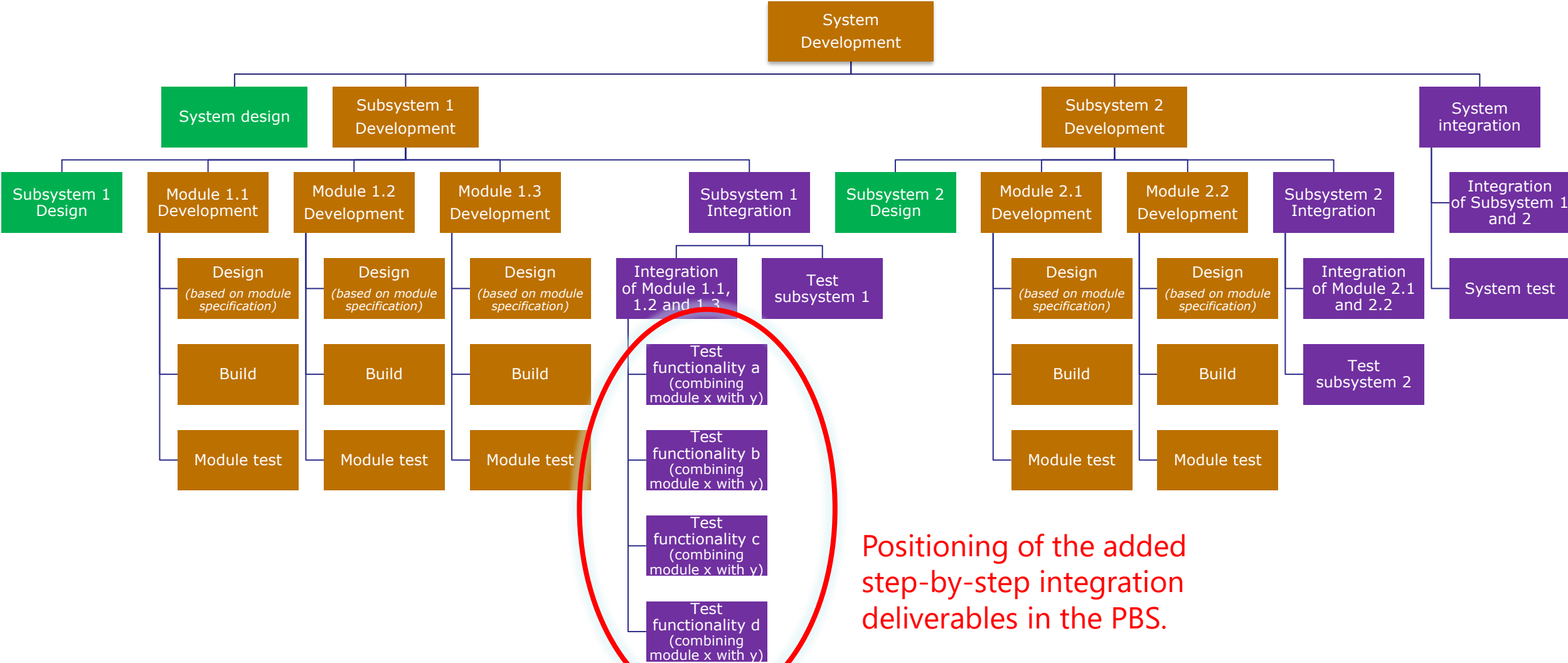


Source: PULZ, 2023

Design and integration of system, subsystems and modules: step-by-step integration



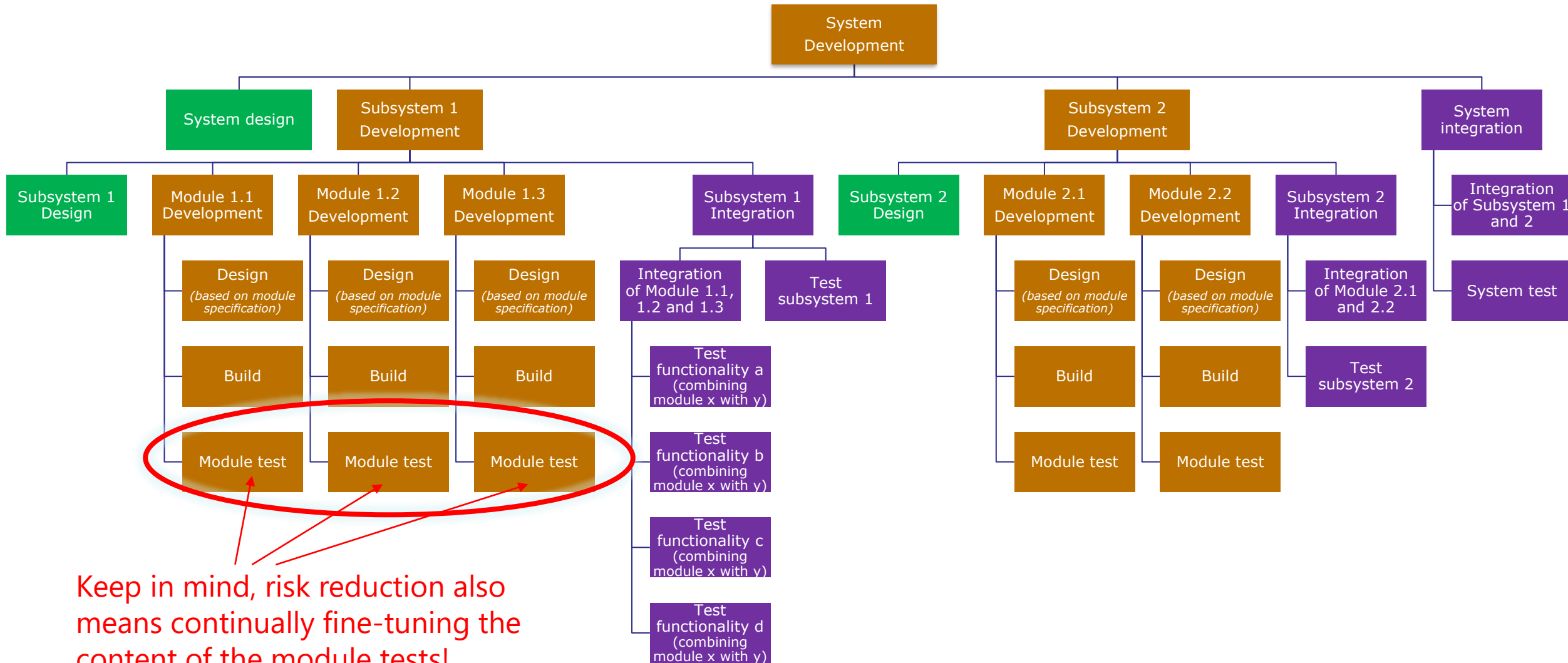
Design and integration of system, subsystems and modules: PBS impact



Positioning of the added step-by-step integration deliverables in the PBS.

Source: PULZ, 2023

Design and integration of system, subsystems and modules: PBS impact



Source: PULZ, 2023



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