

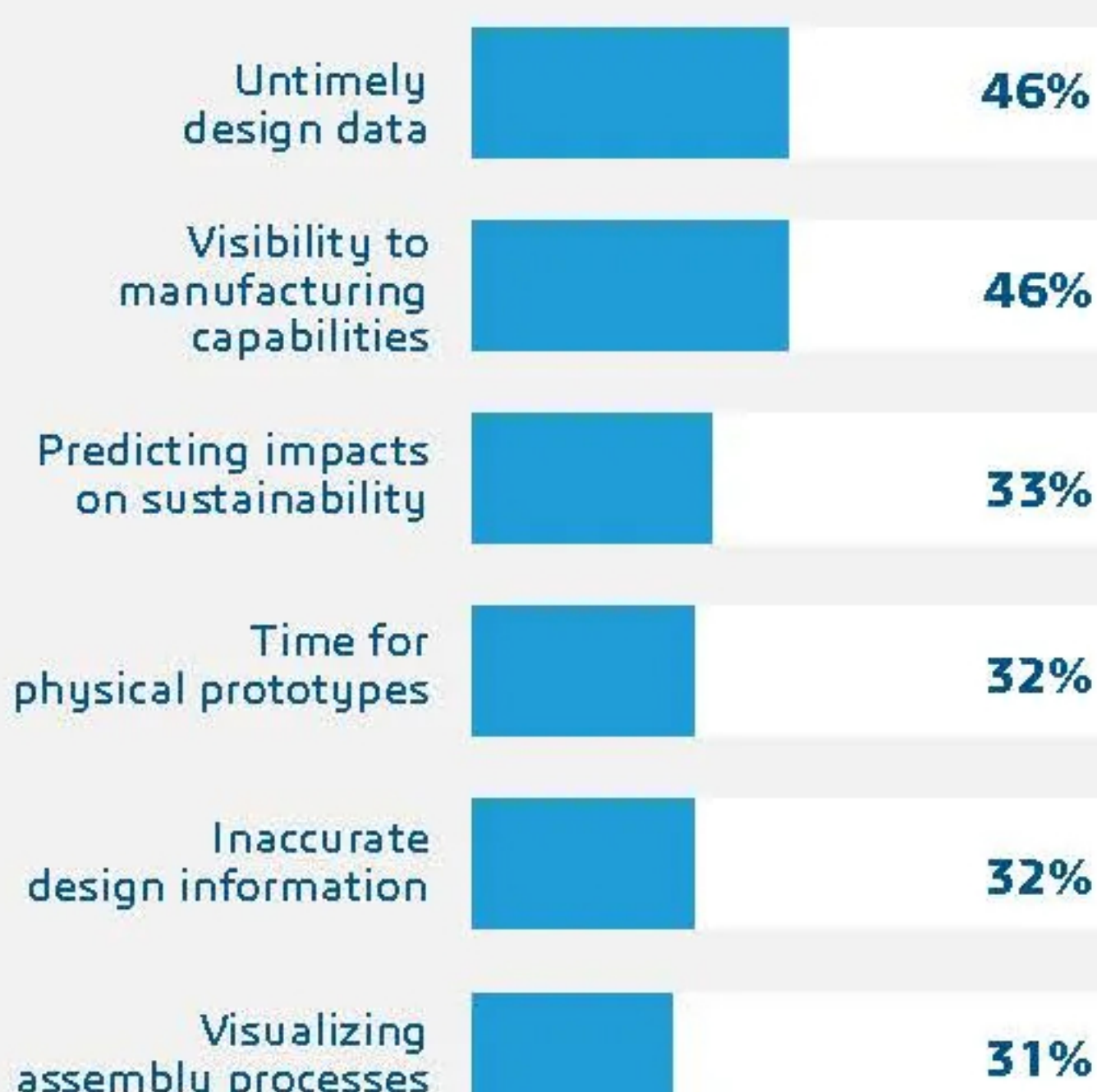
OPTIMIZING AEROSPACE & DEFENSE MANUFACTURING WITH VIRTUAL BUILD

With global travel and international borders fully reopened, the demand for transportation and logistics has accelerated over a short period of time – placing extreme pressure on manufacturers in the Aerospace & Defense industry to deliver accordingly. DELMIA has collaborated with Tech-Clarity, a leading technology research firm, in a survey of 177 manufacturing professionals to determine what factors have driven success for top performing industry leaders in times of disruption.



MOST COMMON CHALLENGES IDENTIFIED BY MANUFACTURING PROFESSIONALS

There are significant challenges that manufacturing engineers currently face when designing and validating production processes. The two most commonly reported challenges are **untimely product design data** and lack of **visibility in manufacturing capabilities**. These issues hamper accurate, timely process design because planners can't access information about the products to be manufactured or the work cells, equipment, tooling and other resources to produce them.



TOP 5 MANUFACTURING PLANNING ASPECTS IMPACTING PRODUCT SUCCESS AND PROFITABILITY

Our survey also investigated the role manufacturing planning plays in achieving product development goals. Respondents indicate that efficiency, quality, and cost are the factors that drive product success and profitability the most. The top two valuable factors identified were **manufacturing engineering efficiency** and **first-time quality**.



RESULTS OF MANUFACTURING PROCESSES WITH 3D, AR, AND SIMULATION



36%
fewer prototypes



37%
reduction in time-to-market

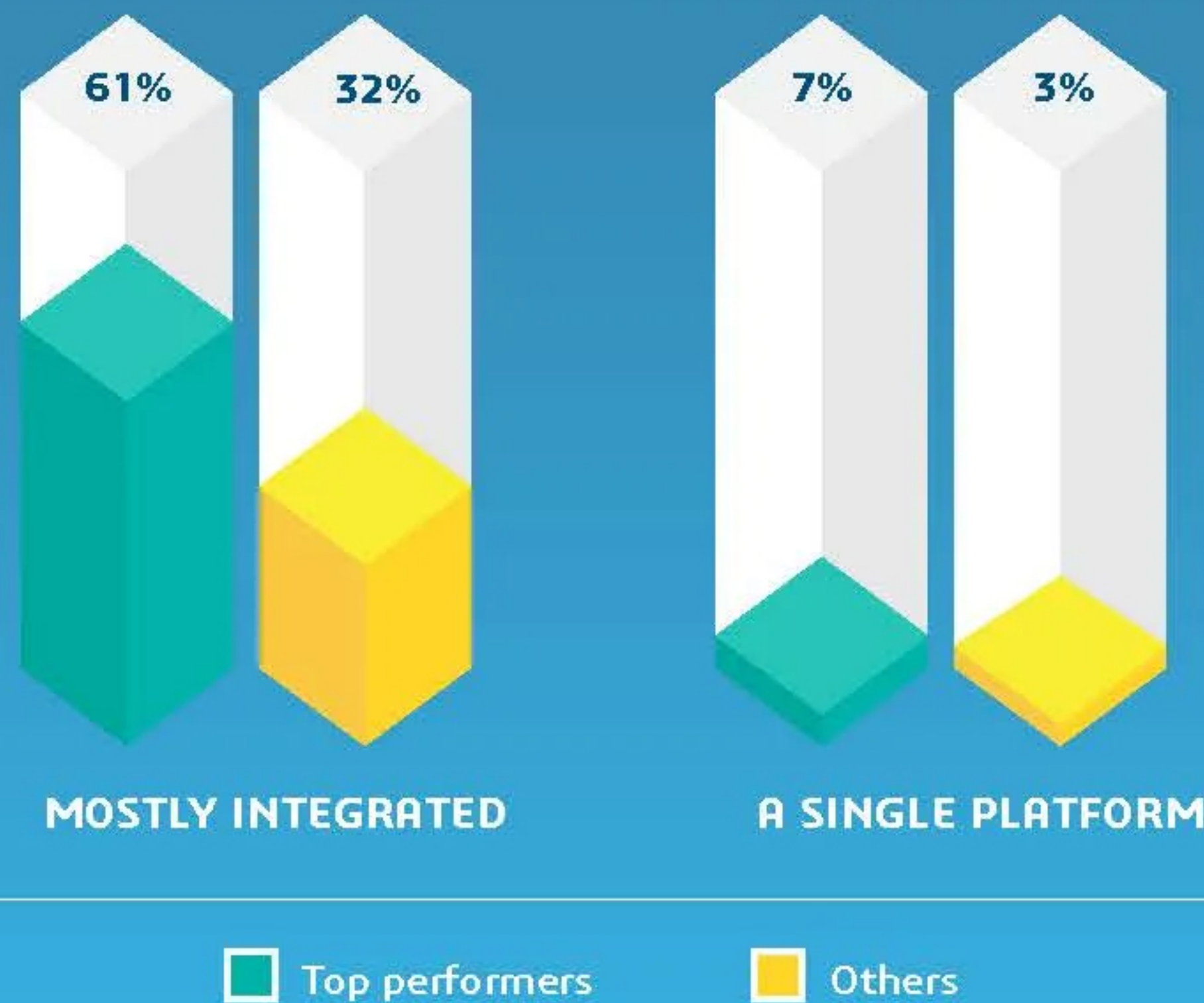


36%
less ECOs

There is significant room for improvement in the methods currently used to validate manufacturing plans. Most companies continue to validate process plans with time-consuming and expensive physical prototyping, but the time has come for a change. Our survey showed that manufacturers who digitalized production planning were able to **reduce cycle times, increase efficiency, and deliver better quality**. By adopting new techniques such as virtual simulation, top performing manufacturers were able to validate manufacturing earlier in the process in parallel with product design – thus leaving less errors to occur in the later stages of production.

INTEGRATED SOLUTIONS VS. SINGULAR PLATFORMS

MANUFACTURING ENGINEERING SOLUTIONS INTEGRATION



Our research also compared the use of mostly integrated solutions against single platform solutions. The results were clear: top performers were 90% more likely to use integrated systems for manufacturing engineering compared to others. With a platform of solutions, industry leaders were able to create a digital thread without extensive need for custom integration. However, other manufacturers who used disparate tools found it hard to reuse designs, which often resulted in recreating models.

Read the full report on **“Transforming Manufacturing with Virtual Build in Aerospace & Defense”** to learn:

1 Additional critical challenges to consider in the manufacturing process

3 Key performance drivers and best practices for leading manufacturers

2 Phases which physical issues are identified by top performers vs regular manufacturers

4 Advanced methods of communication and collaboration