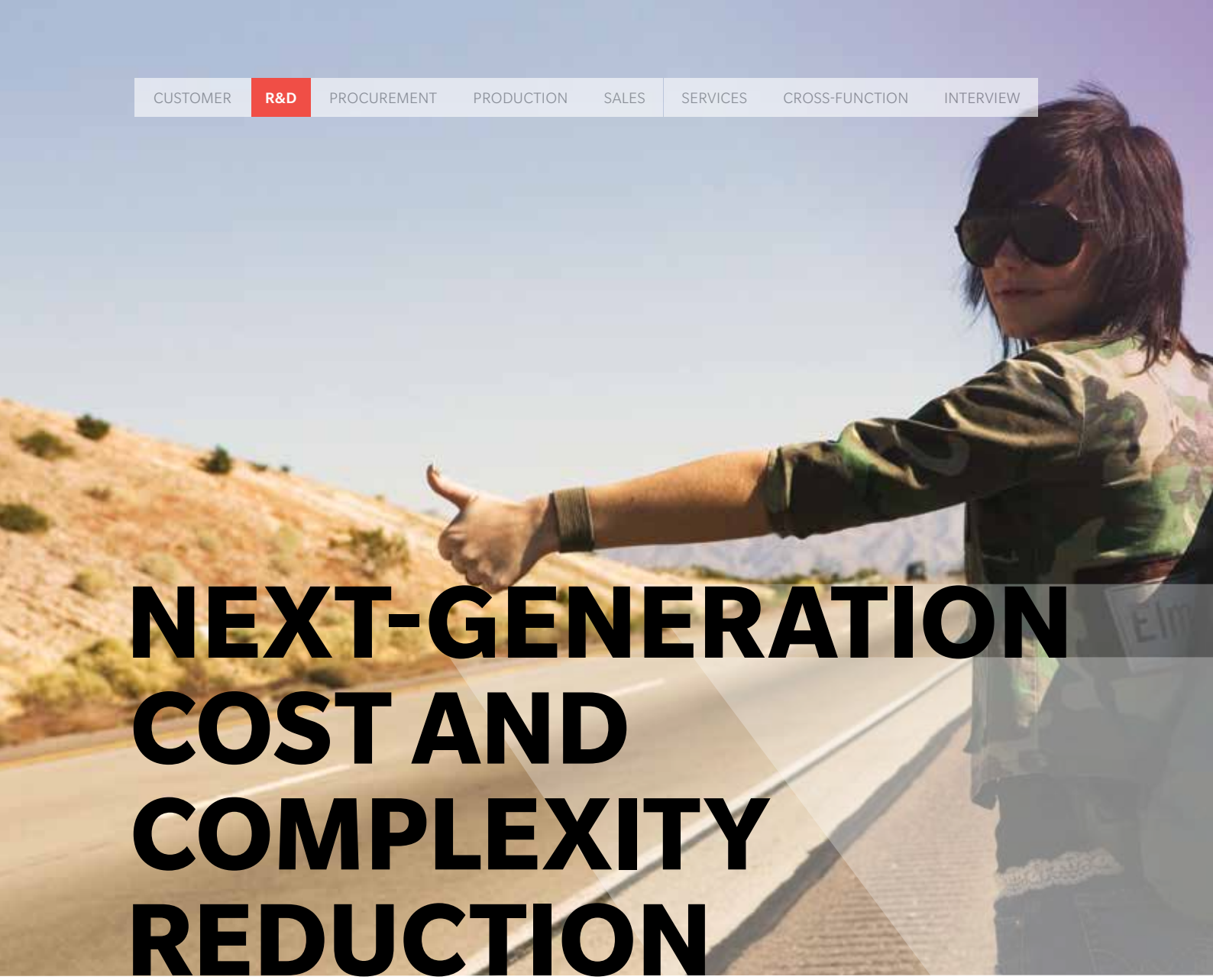

NEXT-GENERATION COST AND COMPLEXITY REDUCTION

Automakers have excelled at boosting their lineups, while reducing their platforms. They have spent decades achieving scale through the use of common parts, designs, and assembly processes. Many automakers, however, are reaching the point of diminishing returns. While there are fewer platforms to cut, there is more demand than ever for a wider range of models to meet the needs of a more diverse customer base.

To gain even greater scale and provide additional value to consumers, automakers must look outside their own corporations. By partnering with rival automakers or suppliers, they have the potential to reduce their capital requirements and better leverage scarce engineering resources, helping them achieve the next generation of complexity and cost-reduction benefits.

ANDREW CHIEN
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Challenges are mounting for automakers. They are targeting an increasingly segmented market with more models. The demand for improved technology is rising as they race to meet fuel economy and emissions requirements, develop alternative propulsion systems, and carve out a place for themselves in the market for self-driving vehicles.

Automakers and their suppliers spend €130 billion annually on R&D. The pressure on capital and engineering resources has never been higher. Simultaneously, designs for many mature automotive systems are converging so that the components will meet customer and regulatory requirements across multiple automotive brands in a wide range of markets. What has resulted is a proliferation of vehicle variants that look different on the outside but are almost functionally equivalent underneath despite having been designed and manufactured by a large number of different companies.

In the U.S. and around the world, the number of light-vehicle models has increased by more than 30 percent in the past 15 years. This has happened as automakers have slashed the number of vehicle platforms, components, and modules they use in an effort to better leverage scarce capital and engineering resources.

However, opportunities for continued platform and component consolidation are diminishing. According to researcher IHS, the percentage of annual global light-vehicle production on platforms with greater than 50,000 units was only 33 percent in 2000 and increased to 65 percent in 2012. By 2019, this figure is estimated to increase to just 74 percent, as opportunities for further consolidation dwindle. The next generation of commonality and scale improvement will be defined by those willing to try something new.

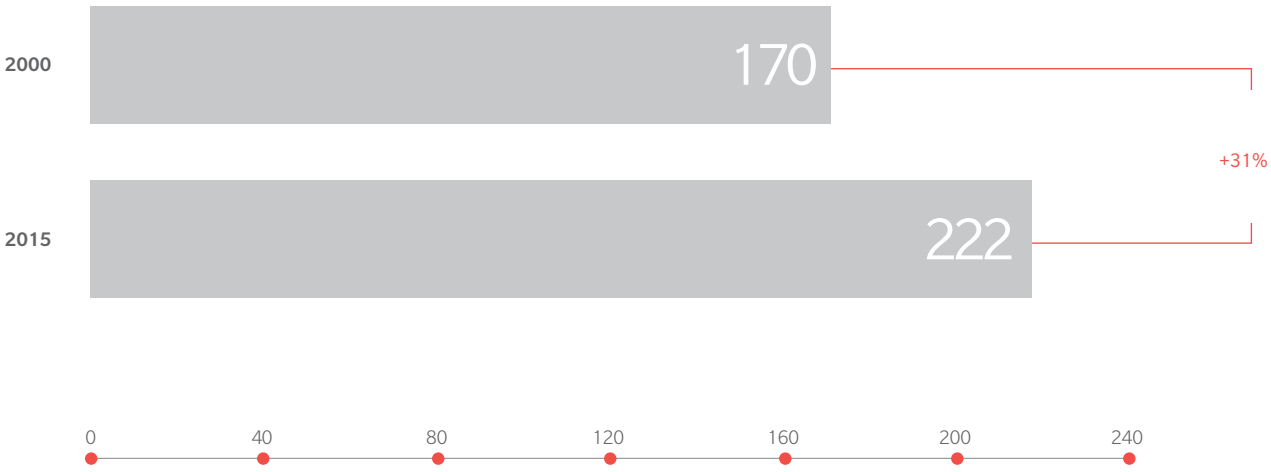
UNDIFFERENTIATED BUT UNIQUE DESIGN SOLUTIONS

The automotive industry is going through its greatest transformation since the early 1900s. Many vehicle system designs and manufacturing technologies are relatively mature, with incremental improvements made on each successive generation. This has led to somewhat undifferentiated design solutions across the industry. This is especially true at the component level, where designs have converged to fairly common solutions needed by all automakers to meet either regulatory requirements or common customer demands. One example is the engine, which most automakers still design and manufacture in-house due to their belief that it differentiates them from their rivals.

Today's engine sizes, technologies (variable valve timing, direct injection, turbocharging, etc.), cost, and performance are nearly the same across most volume manufacturers, yet nearly all automakers design and build their own engines at great expense. By avoiding collaboration with rivals or suppliers, automakers are missing a big opportunity.

U.S. CAR MARKET IS BECOMING INCREASINGLY SEGMENTED WITH DIFFERENT MODEL TYPES

The number of new models for sale has increased by over 30 percent in the past 15 years



Source: Statista Research

There are a number of reasons why automakers are reluctant to partner with other vehicle manufacturers. Most believe they have a competitive advantage and don't want to share their capabilities. Some are concerned that a partnership – especially one that was struggling – would pull management attention away from more crucial tasks. These are legitimate concerns, but if a strong and compatible partner is found, the potential benefits in many cases would outweigh the risks.

PARTNERING: THE NEW FRONTIER

Better partnering is the new frontier. One avenue is collaboration between automakers and suppliers, with automakers allowing partsmakers to work more efficiently in conjunction with other vehicle manufacturers. Another option is automakers or suppliers partnering with competitors, either directly or through consortiums, to develop more comprehensive industry standards.

For these partnerships to succeed, there must be a paradigm shift in thinking. Automakers should seek partners to help spur innovation, yet share in the cost of developing those innovations. Choosing the right partner is paramount; therefore, automakers should seek companies with similar priorities, business objectives, and work cultures. Partners should be able to leverage their strengths, but both sides must contribute equally for the relationship to prosper. Having full, senior management support from each partner is mandatory, as is having appropriate management structures. In some cases, for example Daimler's partnership with Renault-Nissan, equity stakes can be taken across companies to cement the relationship.

A downside to partnerships is that speed to market is often compromised when two or more independent companies work together. To avoid this pitfall, the partners should focus on systems and components that are relatively mature in design, as for example, the partnership between Ford and General Motors on transmissions, or on high-investment commodities or systems, where there are sufficient benefits to justify the risks, such as the partnership between Nissan, Ford, and Daimler for hydrogen fuel cell technology.

Unfortunately, a number of partnerships and mergers have not delivered the desired results. In most cases, these partnerships failed because the companies didn't properly identify synergies during the planning phase, or management didn't sufficiently communicate and articulate the planned common vision during the execution phase.

However, for companies committed to careful planning and execution, partnerships are an effective way to diffuse the high cost of developing new vehicles and new technologies. The leverage generated by two or more companies working together can be tremendous in this capital- and resource-intensive industry. The result is the ability to provide greater value to consumers at a lower cost and with less complexity, providing the partnership with a big competitive advantage. ●