



# What do Boeing, Toyota and Resident Evil have in common?

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# What do Boeing, Toyota and Resident Evil have in common?

“ The time it takes to develop and market a new product is as important as the product itself

These three companies share a common feature: they have created innovative strategies to reduce the time-to-market of their new products, surprising the competition and strengthening their market positioning.

In a recent assignment we worked with a large European construction company in the identification of new market opportunities outside of their core activity. This company is an expert in precast concrete technologies, and expects to leverage this expertise into new emerging areas. One of the most interesting options that came up was in the wind sector, where our client would be able to provide a differentiating product to a growing market segment: concrete wind towers for larger turbines (2,5MW+, placed at a height of 100+ meters), for which conventional steel towers are no longer technically and economically feasible.

Developing an innovative product typically means building a solution from scratch: starting from the design development, prototyping and intellectual property, through defining prospective clients and up to the industrialization and commercialization. Quite a lengthy process, especially considering that several companies had already launched competing products. Thus, the key question to answer was: How can we shorten the time it will take to bring this technology to market?

The solution is not straightforward: time-to-market has to be short enough not to lose market opportunities, but long enough to minimize errors and rework, which lead to additional costs and the loss of market credibility.

We looked across different sectors to find examples of companies that had successfully shortened their product development cycles (Exhibit 1).

| Company | Product                                 | Time to Market                                                  | Improve work procedures                                                                                                                                                                                                                                                | Form Partnerships                                                                                                                                                                     |
|---------|-----------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Boeing  | Airplane Boeing 777                     | 1.5 years less than the previous model developed by the company | <ul style="list-style-type: none"> <li>Concurrent engineering – a work methodology where development tasks are integrated and run in parallel</li> <li>Intensive use of computer base programs – it was the first airplane to be fully designed by computer</li> </ul> | <ul style="list-style-type: none"> <li>Eight airlines, potential clients, took part in the design stage of the Boeing 777, by attending to workshops and answering surveys</li> </ul> |
| Toyota  | Car models                              | 18 months and the future goal is reduce to 12 months            | <ul style="list-style-type: none"> <li>Extensive use of computer-based digital design</li> <li>Improved methods for some of costliest and time-consuming elements of preparing a model for production</li> </ul>                                                       |                                                                                                                                                                                       |
| Ford    | Hybrid system for light trucks and SUVs | Reduce the time to market for this type of product              |                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>With Toyota, both companies expect to introduce a cost effective product and lower time to market</li> </ul>                                   |
| COPCOM  | Video Games                             | Reduce by 1/3 the average time of 3-4 years                     | <ul style="list-style-type: none"> <li>Redefine work procedures</li> <li>Unify 80% of development for all platforms</li> </ul>                                                                                                                                         | <ul style="list-style-type: none"> <li>Form alliances with software development companies in other countries to secure resources and expand sales</li> </ul>                          |
| Sony    | Smart Phones                            | Reduce by more than half time to market                         | <ul style="list-style-type: none"> <li>Put tablets, mobile phones and computer business under the same R&amp;D department</li> </ul>                                                                                                                                   |                                                                                                                                                                                       |

Source: X&Y Partners analysis

*Exhibit 1 - Accelerate time-to-market for different business and companies*

One of the best examples of the importance of time-to-market is the Boeing 777, which took 6 years to develop, instead of the typical 8 to 10 years. This allowed Boeing to beat Airbus to the punch, launching one of the most successful airplanes in the history of commercial aviation. To make this possible Boeing used concurrent production, a methodology in which design, manufacturing and other functions are integrated and run in parallel. Boeing also created a working group with eight airlines to gather their contributions for the airplane design. This allowed them to weave customer needs directly into the final design. Today organizations like NASA regularly use this method to decrease development times across a variety of projects.

Another way to reduce time-to-market is to joint-developed products. For instance, Ford and Toyota have partnered for the joint development of a hybrid-electric system for light trucks and SUVs, which will then be used by each manufacturer in their own models. Both companies feel that the risk that these models will later compete for the same market segments is offset by a shorter and less expensive product development cycle. Ford also has similar joint development agreements with General Motors and PSA-Peugeot-Citroën for other products.

In a very different business line, CAPCOM, the Japanese game developer responsible for Resident Evil and other major titles, has a growth strategy for the next years that is based on accelerating the time-to-market of their products. The development of a major title, like Resident Evil, can require 3 to 4 years per platform. With the advent of mobile gaming platforms (e.g. iOS, Android, PSP) on top of an already fragmented traditional gaming market (e.g. PC, PS3, XBOX, Wii), CAPCOM feels that consolidation is in order, and thus has created a new framework where 80% of the development time is shared between all platforms. This optimization is expected to reduce costs and shorten the time-to-market by more than 30%. They will also continue to form alliances with software development companies in other countries to secure resources and expand sales, something they have already done in the past with Resident Evil, and which proved to be very effective.

Exhibit 2 summarizes these three examples of products developed in record time.

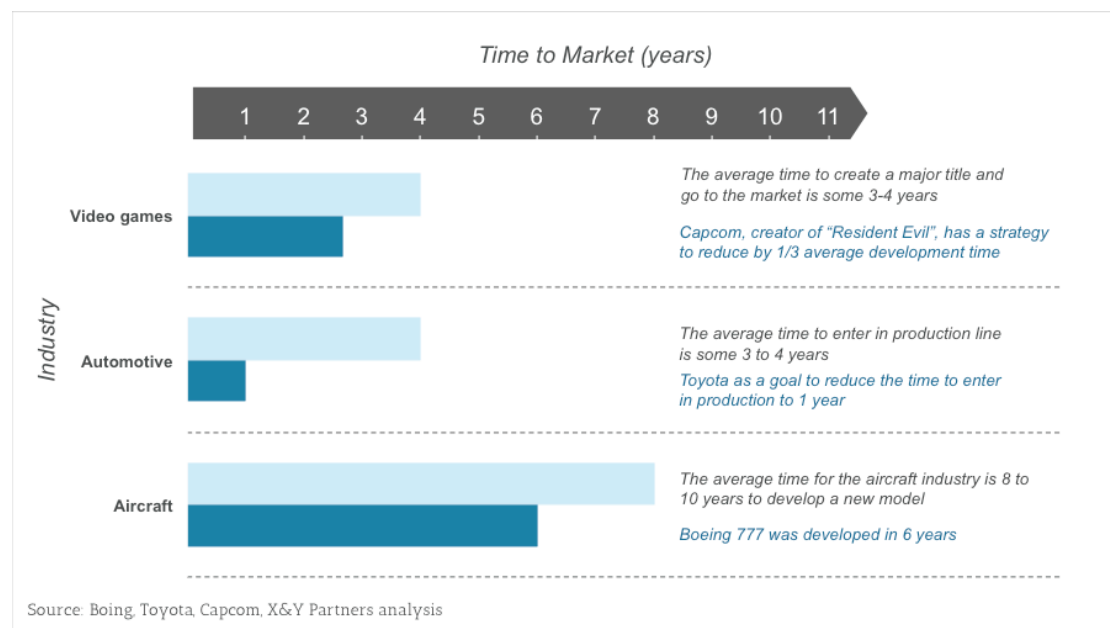


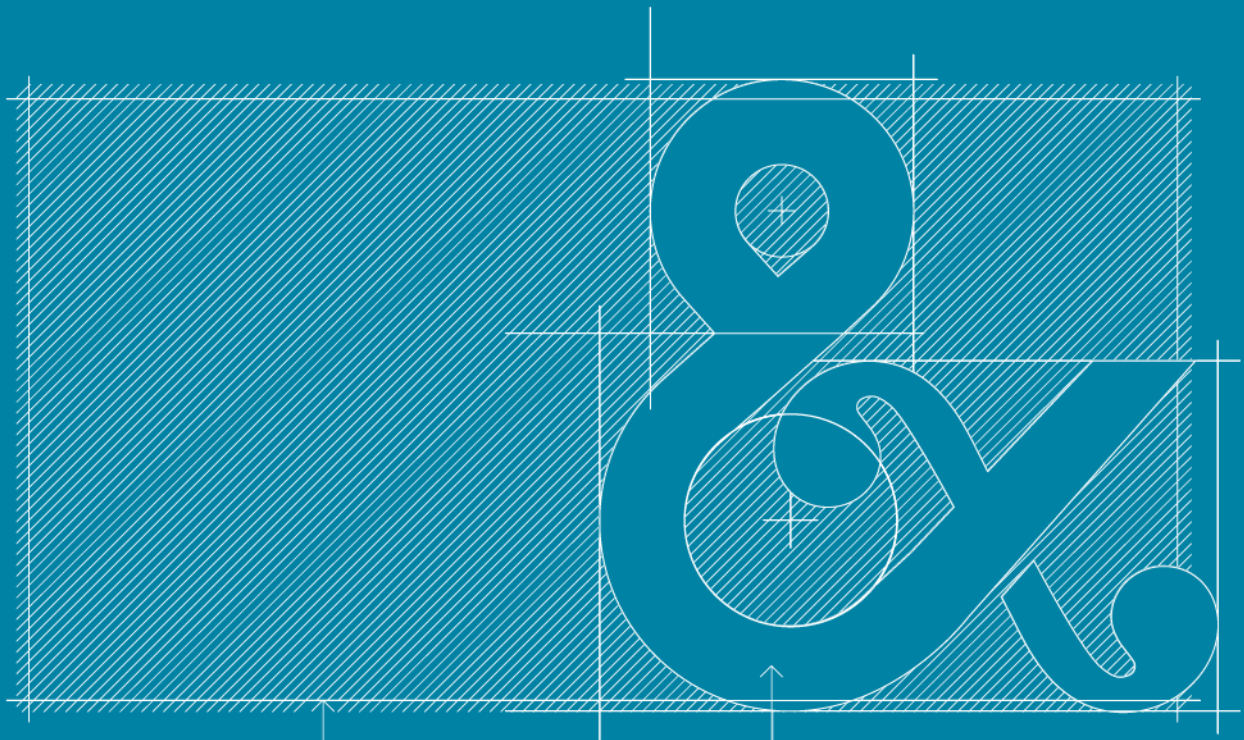
Exhibit 2 - Examples of products developed in a record time compared with average.

Can our client use any of these strategies to shorten the development of concrete wind towers? Yes, all of them:

- Boeing's concurrent production methodology can be used to parallel process many of the design, engineering, financial, legal and commercial tasks. This is particularly true given that developing a precast concrete wind tower is not

that different from developing a precast concrete bridge, so each business unit already knows what it needs to deliver to the other business units;

- Joint product development might also be a very interesting option, particularly with a partner which already operates in the wind sector (e.g. a steel tower manufacturer or a turbine manufacturer);
- CAPCOM's multi-platform development strategy can also help our client to overcome one of the biggest obstacles in wind tower design: developing products for multiple combinations of height and turbine model. A modular tower design can be used as a basis for all variations, with only a small amount of additional development required for each variation.



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