produces roughly half of its products in its own factories. It buys 40% of its fabric from another Inditex firm, Comditel (accounting for almost 90% of Comditel's total sales), and it purchases its dyestuff from yet another Inditex company. So much vertical integration is clearly out of fashion in the industry; rivals like Gap and H&M, for example, own no production facilities. But Zara's managers reason that investment in capital assets can actually increase the organization's overall flexibility. Owning production assets gives Zara a level of control over schedules and capacities that, its senior managers argue, would be impossible to achieve if the company were entirely dependent on outside suppliers, especially ones

located on the other side of the world.

The simpler products, like sweaters in classic colors, are outsourced to suppliers in Europe, North Africa, and Asia. But Zara reserves the manufacture of the more-complicated products, like women's suits in new seasonal colors, for its own factories (18 of which are in La Coruña, two in Barcelona, and one in Lithuania, with a few joint ventures in other countries). When Zara produces a garment inhouse, it uses local subcontractors for simple and labor-intensive steps of the production process, like sewing. These are small workshops, each with only a few dozen employees, and Zara is their primary customer.

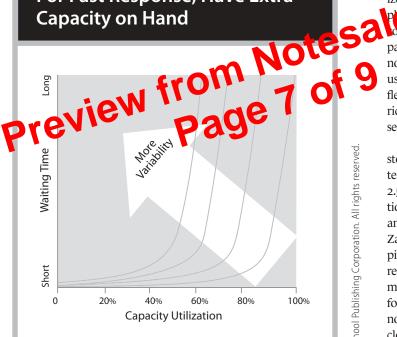
Zara can ramp up or down production of specific garments quickly and conveniently because it normally operates many of its factories for only a single shift. These highly automated factories can operate extra hours if need be to meet seasonal or unfor ken demands. Specialized by gar neut the Zara's factories use soplantica ed just-in-time systems, developed in opperation with Toyota, that allow the company to customize its processes and exploit innovations. For example, like Benetton, Zara uses "postponement" to gain more speed and flexibility, purchasing more than 50% of its fabrics undyed so that it can react faster to midseason color changes.

All finished products pass through the fivestory, 500,000-square-meter distribution center in La Coruña, which ships approximately 2.5 million items per week. There, the allocation of such resources as floor space, layout, and equipment follows the same logic that Zara applies to its factories. Storing and shipping many of its pieces on racks, for instance, requires extra warehouse space and elaborate material-handling equipment. Operating hours follow the weekly rhythm of the orders: In a normal week, this facility functions around the clock for four days but runs for only one or two shifts on the remaining three days. Ordinarily, 800 people fill the orders, each within eight hours. But during peak seasons, the company adds as many as 400 temporary staffers to maintain lead times.

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Even though there's ample capacity in this distribution center during most of the year, Zara opened a new €100 million, 120,000square-meter logistics center in Zaragoza, northeast of Madrid, in October 2003. Why is Zara so generous with capacity? Zara's senior

## For Fast Response, Have Extra **Capacity on Hand**



Zara's senior managers seem to comprehend intuitively the nonlinear relationship between capacity utilization, demand variability, and responsiveness. This relationship is well demonstrated by "queuing theory"—which explains that as capacity utilization begins to increase from low levels, waiting times increase gradually. But at some point, as the system uses more of the available capacity, waiting times accelerate rapidly. As demand becomes ever more variable, this acceleration starts at lower and lower levels of capacity utilization.