

Customized Lean Methods

Author	Manouk Nijhof
Abstract	MCT stands for Manufacturing Critical-path Time. This metric is used in the Quick Respons Manufacturing theory and indicates the time from the moment a customer submits an order, through the critical path, until the first piece of that order is delivered to the customer. MCT highlight the biggest opportunities for improvement and provides management key insights to adjust the strategy in the right direction.
Keywords	MCT & MCT mapping & Quick Response Manufacturing
Challenge	Decreasing the MCT in processes will have an impact on on-time performance, quality, costs, productivity and market share, profitability and space and office productivity. Therefore, to clarify whether improvements have been achieved, it is important to examine the MCT of the process flow before and after the modifications. The aim is to make the MCT as short as possible.
Current condition	<p>The first step is to develop a MCT map of the current situation. This map provides a visual overview of the MCT spent on a product or service. An example of a MCT map is shown below.</p> <div><p style="text-align: center;">Process Flow</p><p style="text-align: center;">➔</p><div><div>Order entry</div><div>4 hrs</div><div>Fabrication Operations</div><div>15 hrs</div><div>Pack and Ship</div><div>3.5 hrs</div></div><div><div>3 days</div><div>9 days</div><div>3 days</div></div><div>Total MCT: 15 days</div></div> <p>The gray space (touch time): The time spent on developing a product or service, by adding value for the customer. The white space (elapsed time): The remaining time when no value is added to the product or service.</p>
Target condition	The map represent an overview of the greatest possible improvements. The traditional cost-reduction or efficiency-improvement approaches focuses on improvements in the touch time. MCT looks time differently, it focuses on reducing the larger proportion of the total MCT: the elapsed time. This will have a bigger impact on the lead time than focusing on the small fraction (gray space) where value is already added.
Moving toward the target condition	It is more important to quantify the white space instead of the gray space. Moreover, all actions executed should contribute to reduce the white space.