

**Labor
Efficiency**

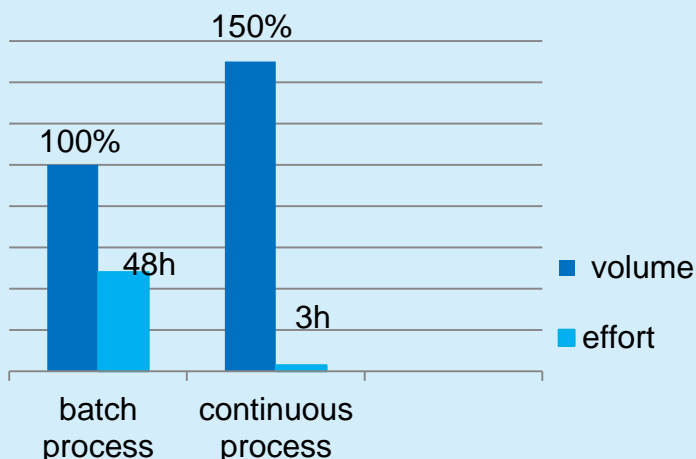


**Space-Time
Yield**

More Labour Efficiency

Decisive Breakthrough in Cost-Cutting

The objective of a specialty chemical producer was to lower costs for one certain production with as little investment as possible. The labour-intensive process with a 2-phase reaction was operated with four batch reactors in three shifts and a permanent workforce of two people. The possibilities for process optimization were already maxed out with no significant improvements. Only switching from batch to continuous flow processing has led to a real breakthrough in cost reduction:



Profit from Continuous Flow Processing

The production volume has been increased to 150% and yet requires only 2 reactors. Yields were increased from 40 to 90% and the need for personnel was reduced from 48 to only 3 man-hours a day. After 1 hour only, product quantities are high enough for the next production step.

Due to the high degree of automation of the continuously operated plant the process become safer, the frequency of errors and the associated waste are reduced to zero.

Due to a sophisticated design and a thoughtful selection of required equipment the investment outlays were kept to a minimum.

- **Less Manpower**
- **Less Waste**
- **Less Risk**