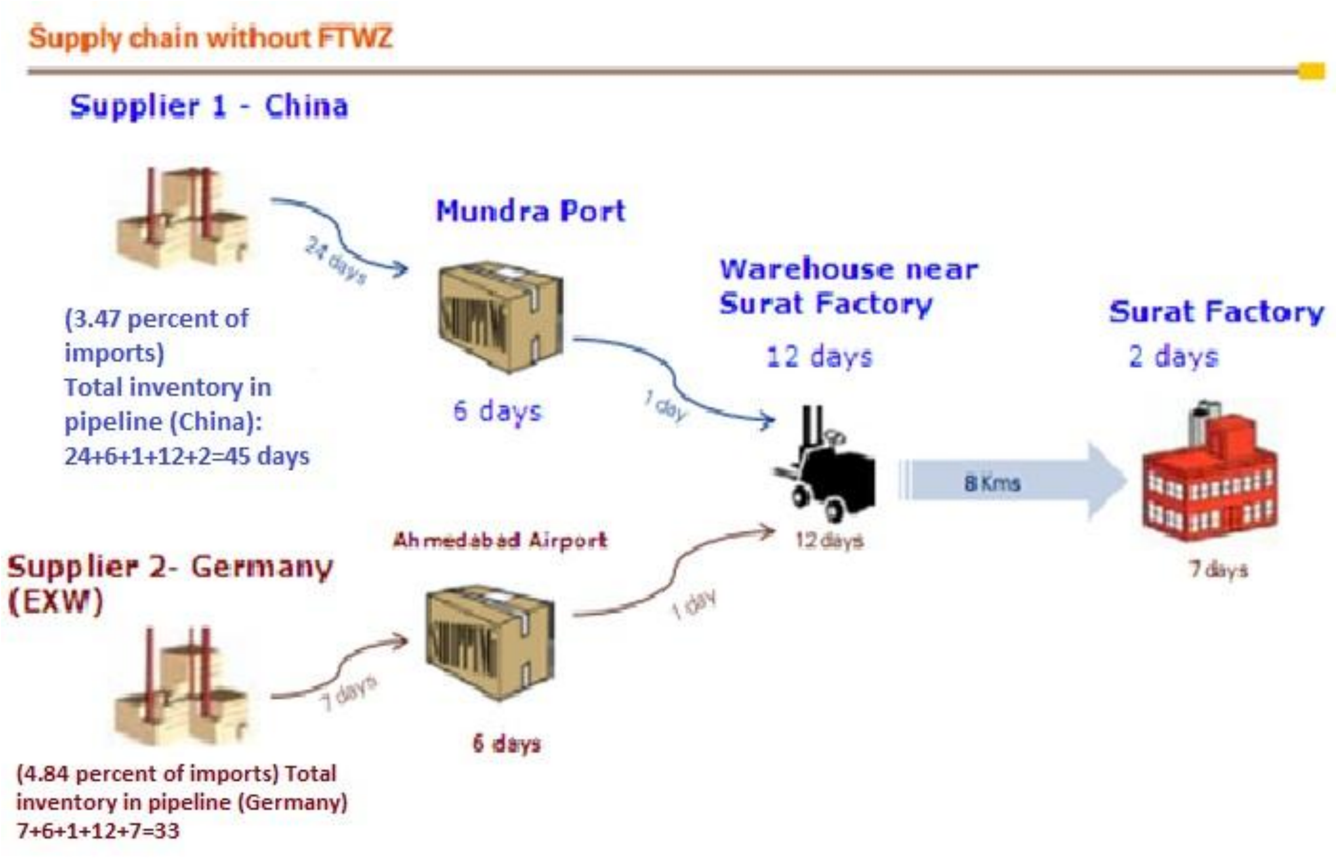
Case Study - Free Trade Warehousing - Imports (VMI - Vendor Managed Inventory)

Context:

This case study relates to benefits of importing products into India through FTWZ (free trade warehousing zone which is a deemed foreign territory).

Company XYZ has a manufacturing facility in Surat. XYZ imports raw materials from multiple suppliers globally. Two suppliers, based in China and Germany, have been considered for this case study.

While supplier 1, based out of China, routes the shipments by sea to XYZ's factory at Surat via Mundra Port resulting in 45 day-long inventory in pipeline, supplier 2, based out of Germany, moves the cargo by air via Ahmedabad, leading to 33 day-long inventory period.



* At 38 percent plant capacity utilization

Complication:

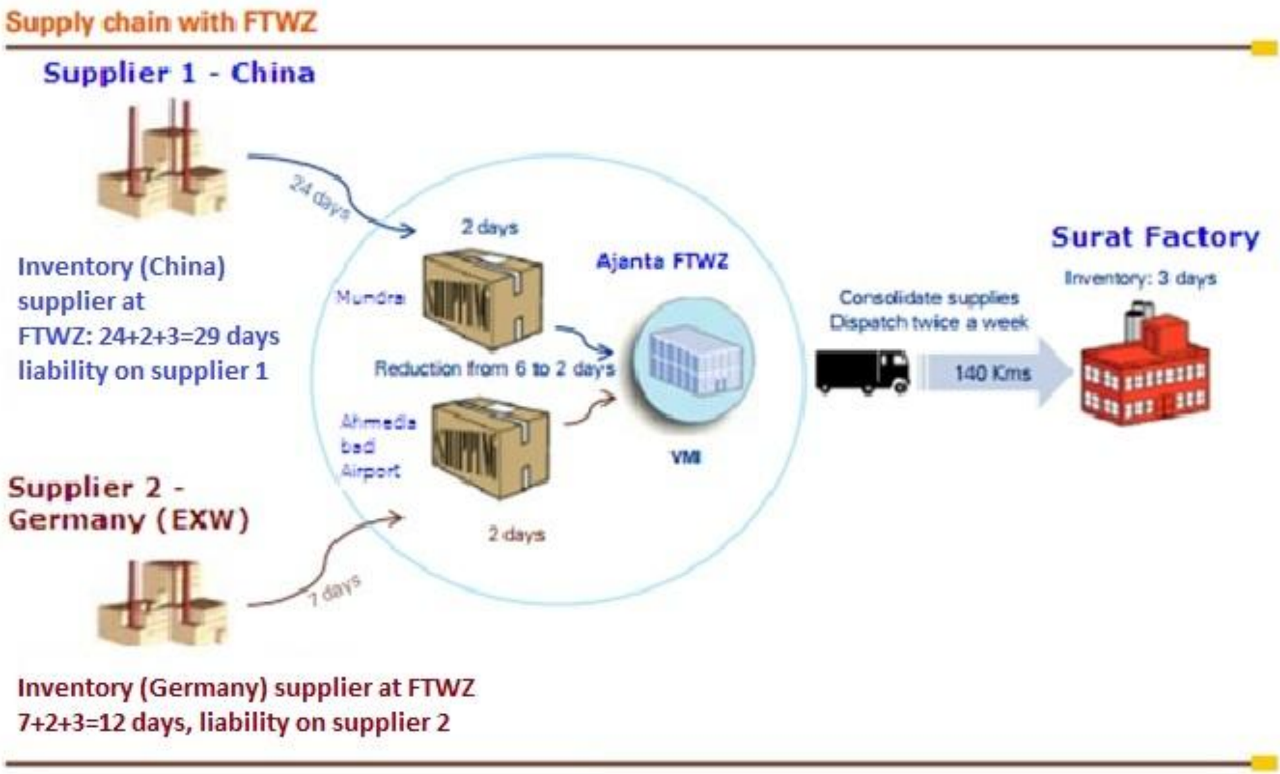
The above explained supply chain model had some inherent challenges:

- The quality check occurring post duty payment contributed to augmented reverse logistic and salvages costs.

- For Supplier 1, XYZ imported under advance license. Hence, there was no locking of working capital due to duty payment. However, working capital was locked on inventory for 14 days during transit from the warehouse to the plant, Cost, Insurance and Freight (CIF).
- For Supplier 2, working capital remained locked since inventory was maintained post duty payment, and on inventory during transit from the Germany to XYZ's plant that took 33 days on an ex-works basis.

Resolution:

Ajanta Pack Mart, a player in the FTWZ domain, designed customised solution for XYZ by effectively integrating its FTWZ within the overall supply chain. As depicted in the representation below, inclusion of FTWZ eliminated the need for a warehouse near the factory in Surat.



Using this solution, XYZ implemented Vendor Managed Inventory model in the FTWZ. Here, the suppliers maintained their inventory in the FTWZ, wherein the ownership of the cargo lay with them. Ownership was transferred to XYZ from the supplier only post clearance from the FTWZ.

Outcome and Impact:

The use of an alternative supply chain by the two suppliers, supported by Ajanta's innovative solution, had the following benefits on XYZ's business model:

- Inventory holding days for XYZ with respect to shipments from supplier 1 (sea, CIF) were reduced from 14 days to 3 days, resulting in a saving of 11 days.

- Inventory holding days for XYZ with respect to shipments from supplier 2 (air, EXW) were reduced from 33 days to 3 days, resulting in a saving of 30 days.
- Quality assurance at FTWZ before dispatch eliminated any possibility of rejection post duty payment, thus eliminating the avoidable reverse logistics cost.
- The turnaround time for the cargo to reach the FTWZ from the Mundra Port reduced from 7 days to 2 days, since FTWZ is a declared Dry Port with its own custom clearance set up.

All documents and the cargo from Mundra Port moved directly to FTWZ without customs clearance needed at the Port (for instance, Bill of Entry was filed at the FTWZ).

- Liability and ownership of stock at FTWZ changed hands from XYZ to the suppliers.
- Provision to pay duty at the time of dispatch, with flexibility of 24 x 7 custom clearance, helped release working capital for XYZ.
- The supplier was at increased convenience to handle rejections because of a hassle free re-export facility at the FTWZ.
- Apart from the fact that the warehouse near the factory became redundant, other benefits included end-to-end visibility to XYZ through customized Information Technology (IT) solutions, reduction in air shipments and related high costs, quality control prior to duty payment, availability of buffer stock, etc.

<u>Indicative Cost Benefit for XYZ Out of the Two Suppliers was as Follows:</u>

Benefits accrued to XYZ	With respect to Supplier 1			With respect to Supplier 2		
At XYZ's Plant Capacity utilization	38%	75%	100%	38%	75%	100%
	All figures below in INR mn					
Working capital unlocked from inventory reduction (from 14 days to 3 days)	2.13	4.21	5.60	8.11	16	21.34
Working capital unlocked from duty deferment	0	0	0	1.04	2.05	2.73
Total working capital unlocked	**2.13**	**4.21**	**5.60**	**9.15**	**18.05**	**24.07**
Interest saving (at 10 percent) due to unlocked working capital	0.21	0.42	0.55	0.91	1.81	2.41
Benefit due to quality check inside FTWZ (no rejection at plant)	0.33	0.65	0.87	0	0	0
Total benefits due to interest saving and quality check inside FTWZ	**0.54**	**1.07**	**1.42**	**0.91**	**1.81**	**2.41**

Note: The above calculations are done on an annual basis. The savings have been calculated based on (a) Total Value of imports from supplier 1: INR 70.74 mn; (b) Total Value of imports from supplier 2: INR 98.65 mn; (c) Weighted average cost of capital: 10 percent; (d) average duty paid by XYZ on the raw material: 24 percent