



## New Modular Loading Units and innovative handling equipment

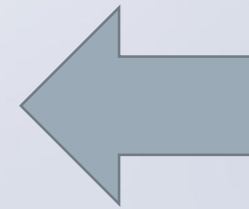
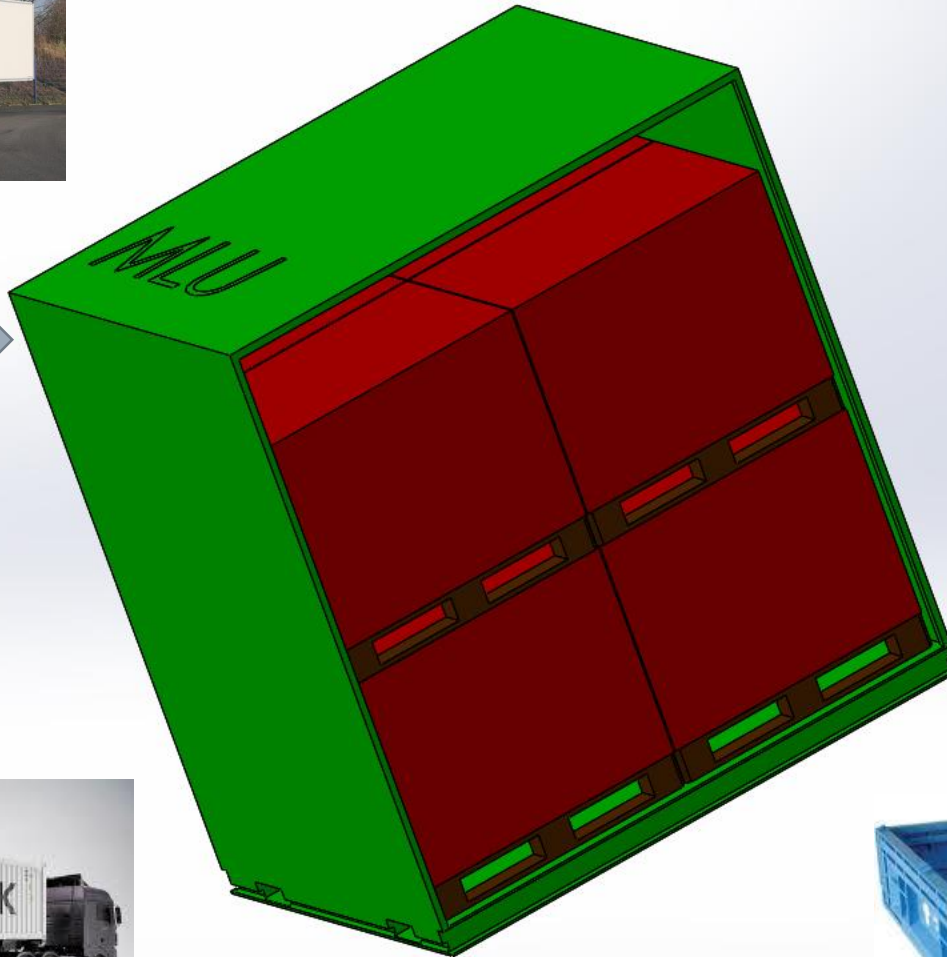
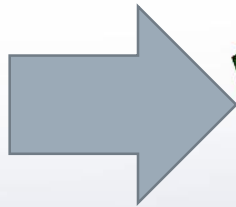
[ton.bertens@vanecktrailers.com](mailto:ton.bertens@vanecktrailers.com)



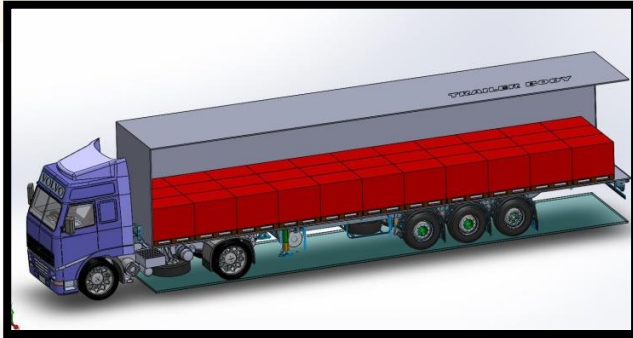
# Clusters 2.0



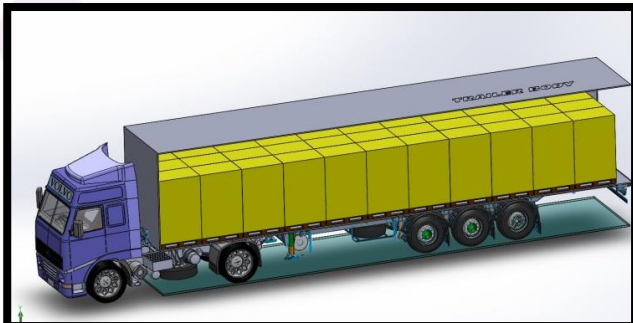
## New Modular Load Unit



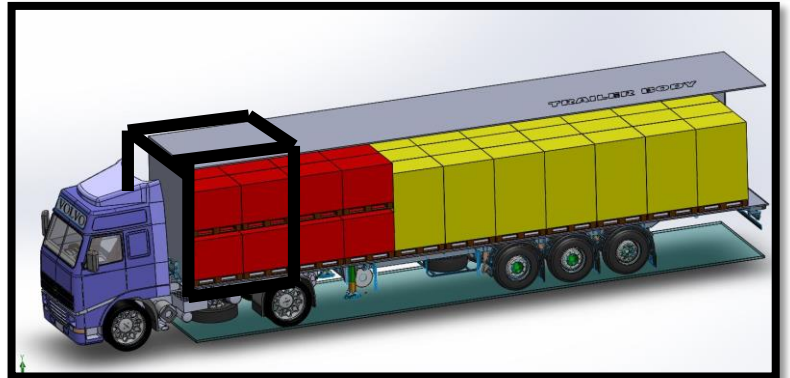
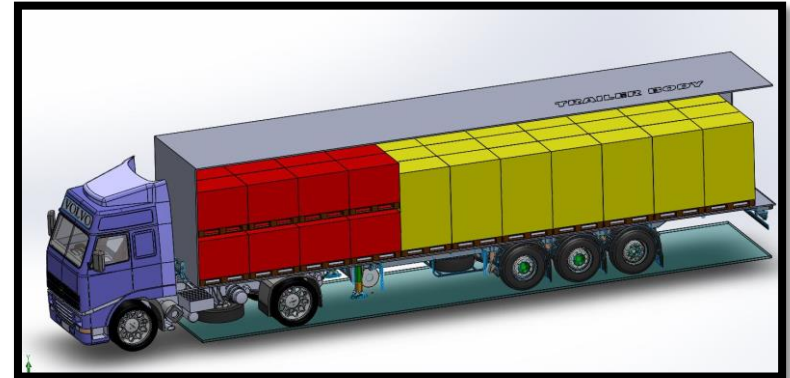
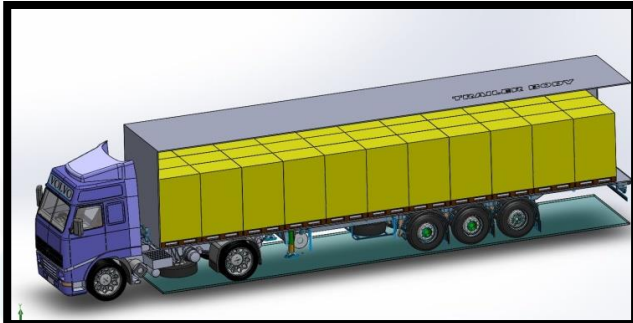
# Clusters 2.0 NMLU to increase load efficiency



High density volume not used

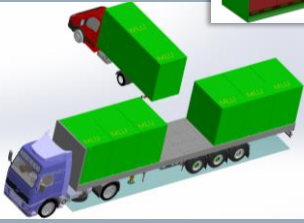


Low density load capacity not used



horizontal collaboration

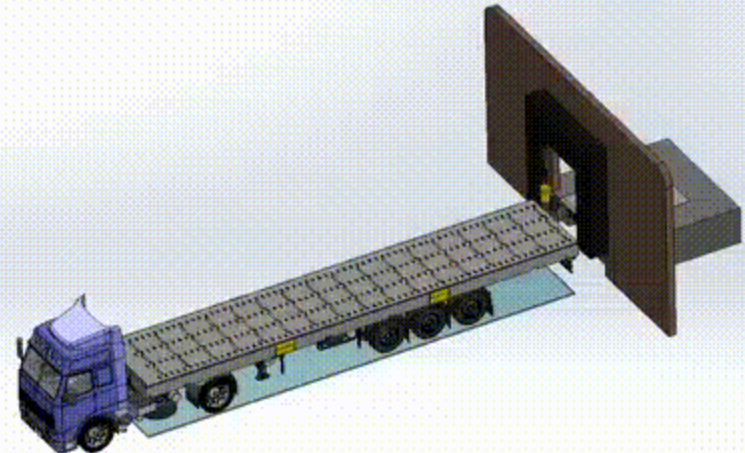
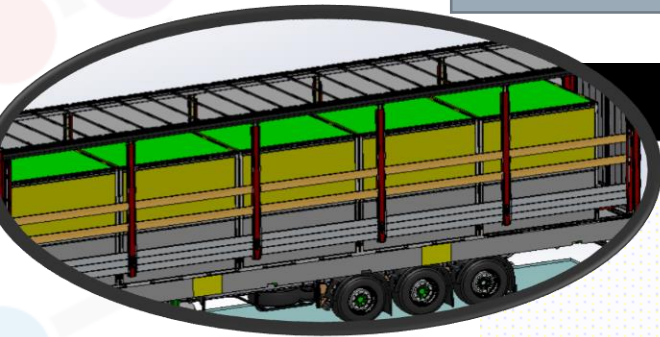
Subframe



# NMLU transshipment on subframe



Trailer is standard container chassis with subframe..  
Subframe used when intermodal shift is needed.  
NMLU's secured on subframe, very high efficient  
loading unloading easy to achieve In trailer.  
Trailer / container loading from back and side.  
Securing on trailer / container important.  
Inter modal handling with existing equipment.  
Transshipment , done on subframe level very quick high efficient



# Are we designing the 40<sup>th</sup> modular load unit ?

### De landkist

Fig. 105a, Fig. 105b, Fig. 107

### De voordelen

Efficient bulken de stad

Elektrischtrek 3,5 t, max 1 CB	Overlandaanhangers met 4 CB
Liefervan 3,5 t, max 1 CB	7,45 en 7,60 Waaieraanhangers met 4 CB
Waaieraanhangers 3,5 t, 1 CB	
Aanhangers met 1 CB	20' Cross-container-aanhangers met 3 CB, max

	10ft City Container		20ft City Container	
	Internal	External	Internal	External
Depth	2,295 m	2,295 m	2,438 m	2,438 m
Width	1,413 m	1,413 m	1,413 m	1,413 m
Height	1,210 m	2,483 m	2,483 m	2,984 m
Capacity	55 m <sup>3</sup>	75 m <sup>3</sup>	100 m <sup>3</sup>	100 m <sup>3</sup>
Max. weight	4000 kg	6000 kg	6000 kg	6000 kg
Max. payload	1,000 kg	3,000 kg		

Proetto Shelter project - Innotrans Italy.

Micro Swap BodySpectrum/i.log

Bento box City-log

**External dimension:**  
Length=2550mm  
Width=1840mm  
Height=2500mm

**Internal dimension:**  
Length=2450mm  
Width=1712mm  
Height=2350mm

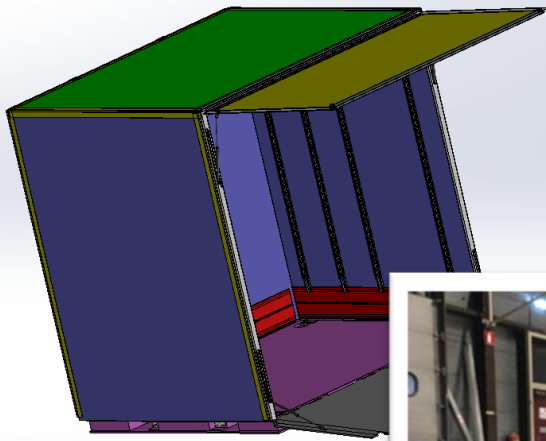
i.log

Using its air suspension, the Freight Bus unloads the 3 Load Units with spacing to allow random order taking.

The Delivery Van uses its actuators to load a Load Unit and drives away and performs parcel delivery.

The Auto-box CTM USA

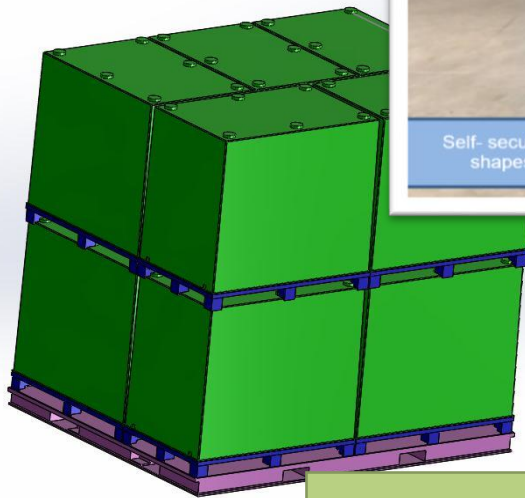
# NMLU 4 designs based on 1 standard bottom



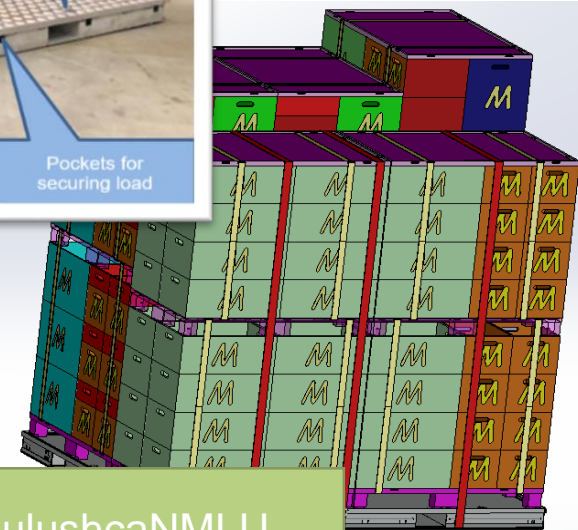
Panel NMLU



Container NMLU

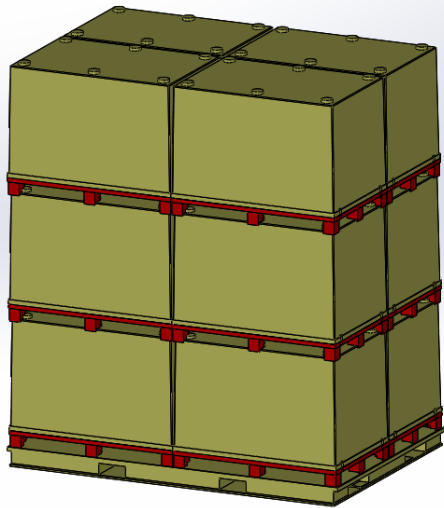


Modular NMLU



ModulushcaNMLU

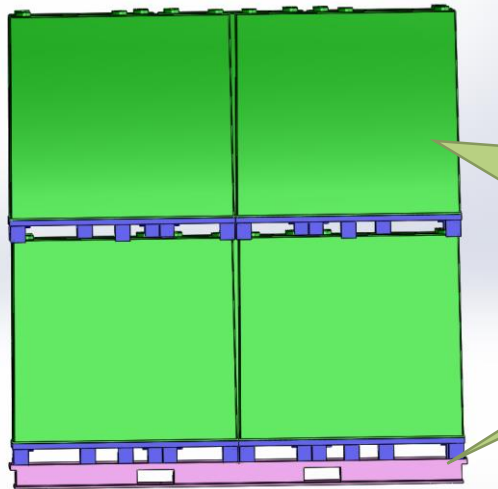
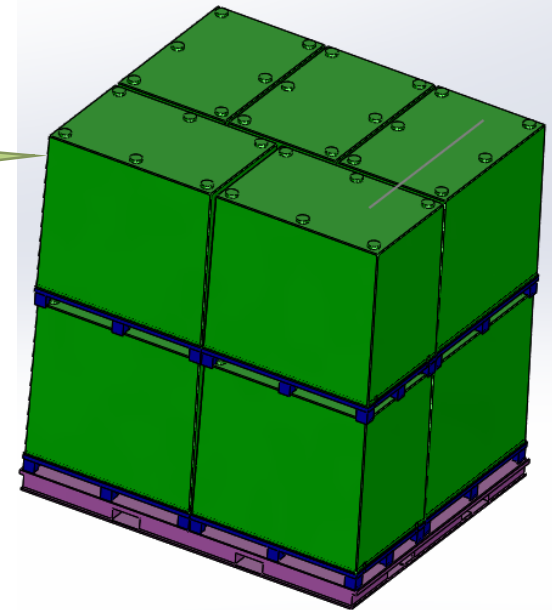
# alt 3 NMLU modular build



NMLU type D high palletbox

NMLU type E low palletbox

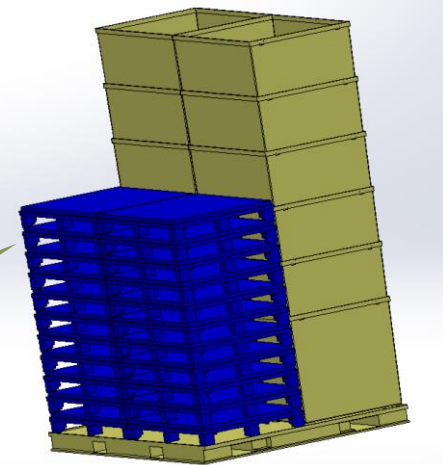
NMLU type D high palletbox



Pallet hood ( plastic)  
Different height s forces height  
standardization  
LOWER !!!!!

NMLU-bottom  
Different sizes  
Same interfaces

nested hoods and pallets on NMLU  
bottom return freight

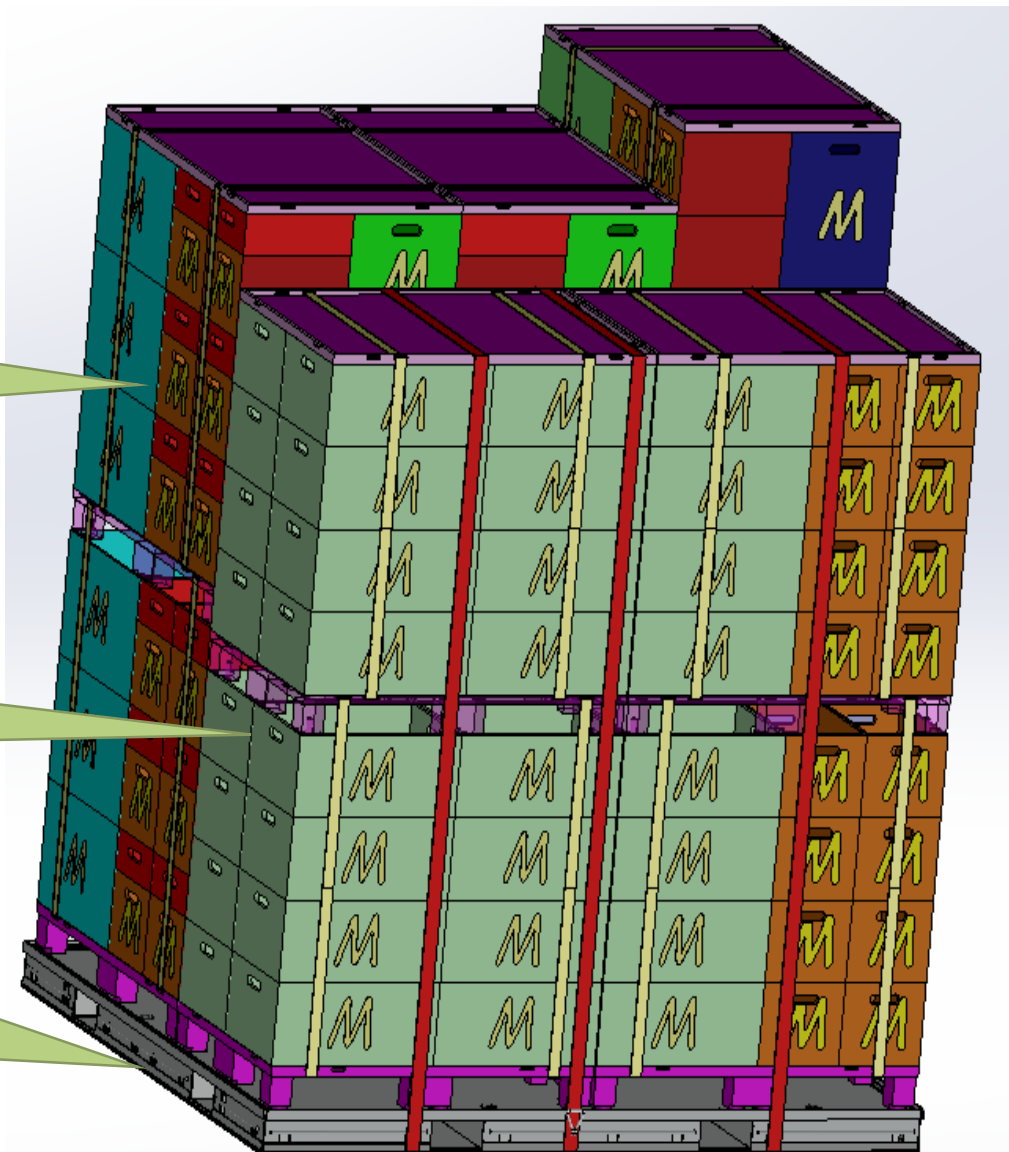


# NMLU modular Proto's are build





# Alt 4 NMLU modulushca Modulushca boxes 2.0













Modulushca boxes fixed to NMLU pallet  
Modulushca closing plate

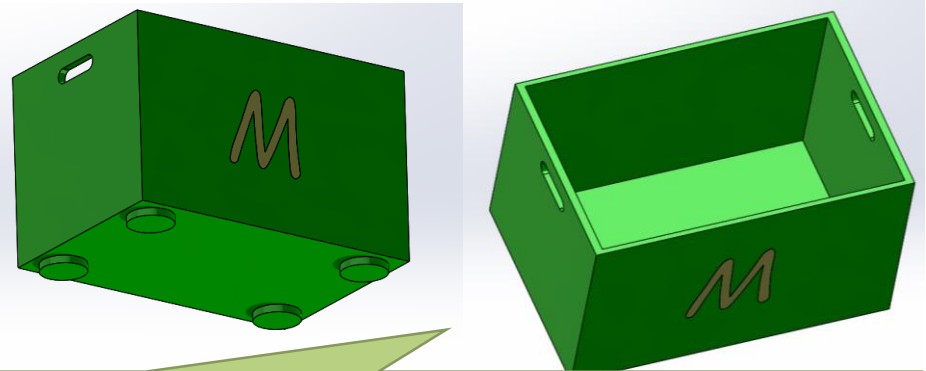
NMLU pallets  
Mangeable as europallets

NMLU bottom standard base for the NMLU used in transshipment intermodal use cases

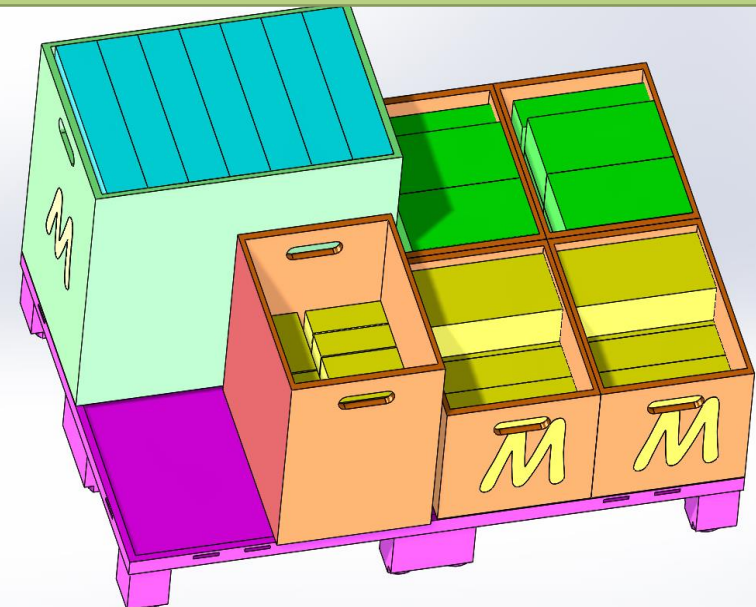
# NMLU modulushca No carton anymore!!!! Zero waist



	
400x300x375	400x300x250
	
400x300x125	600x400x375
	
600x400x250	800x600x375
	
800x600x250	600x400x500
	
800x600x500	1200x400x500

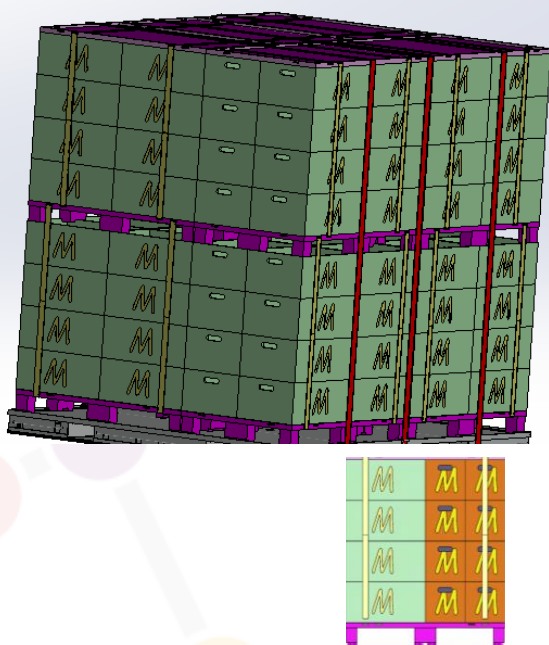


Modulushca boxes open top fit in each other like lego boxes

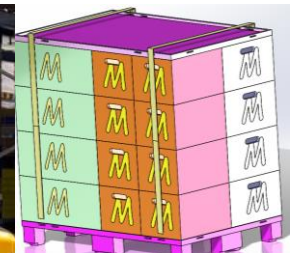


Different dimension but fit together

# NMLU in loading docks in warehouses



# NMLU orderpicking in retail warehouses



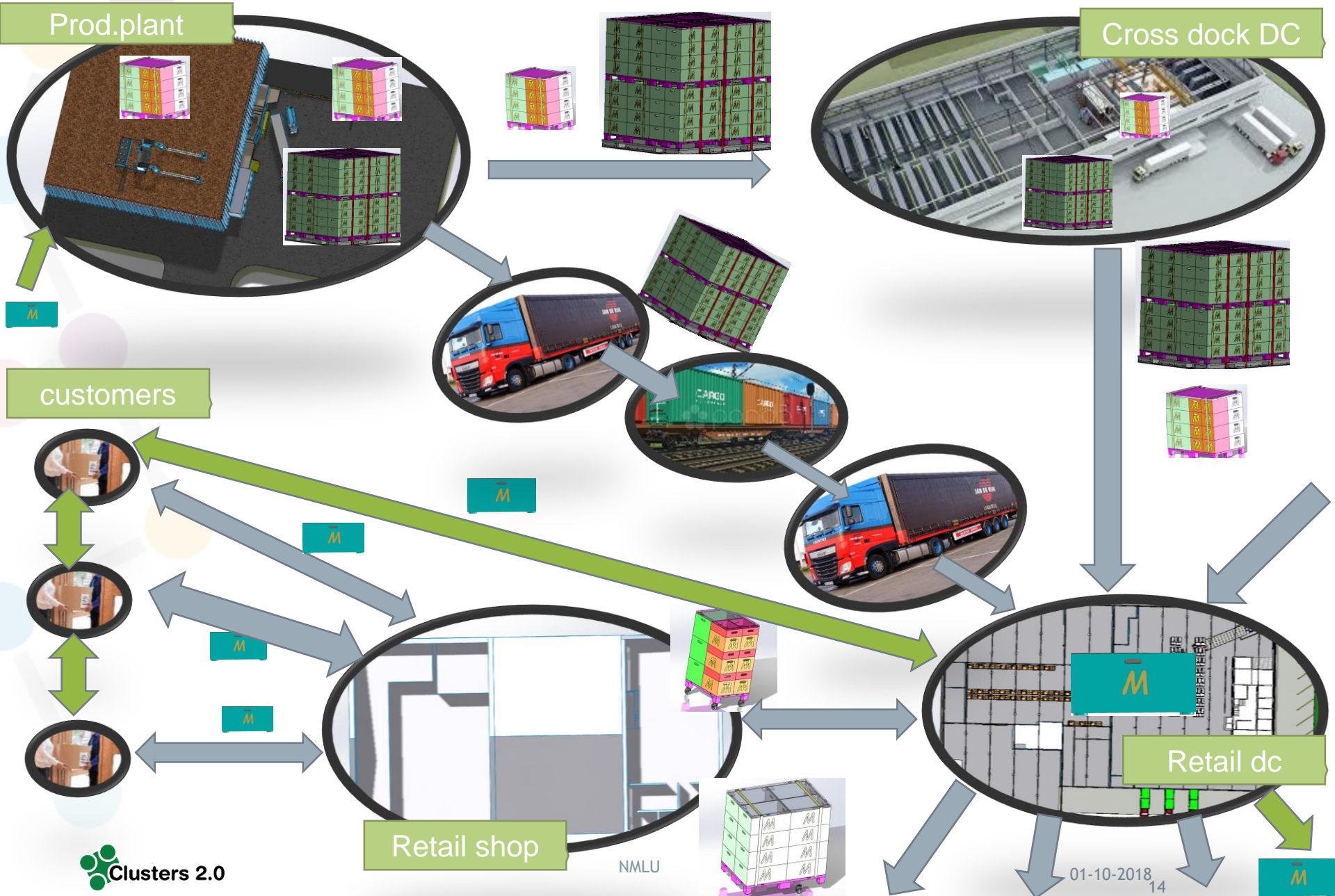
De trays gaan via een gigantisch netwerk van transportbanen naar het magazijn.



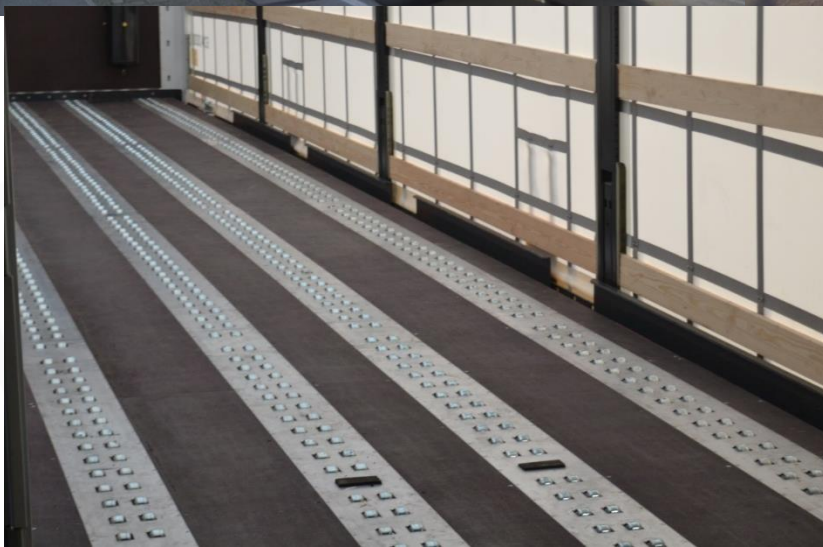
# NMLU city distribution EZ-PRO Renault



# Modulushca NMLU in FMCG logistics with zero waist



# NMLU Testing



Thanks for your attention

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