

FINALLY, **REAL SUSTAINABLE** SUPPLY CHAIN INNOVATION

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KIDV-Webinar 'Business-to-business models for
reusable packaging'

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4FOLDcontainers.com

ABOUT 4FOLD

(Holland Container Innovations)

HOW WE EVOLVED

2008

4FOLD was founded as a spinoff from the Dutch Delft University of Technology.

2013

Reaching 5 years of dedicated development, HCI managed to build the world's first fully ISO and CSC certified 40" foldable container, the 4FOLD.



2016

The European Union included the 4FOLD foldable container in the Horizon 2020 research and innovation program.

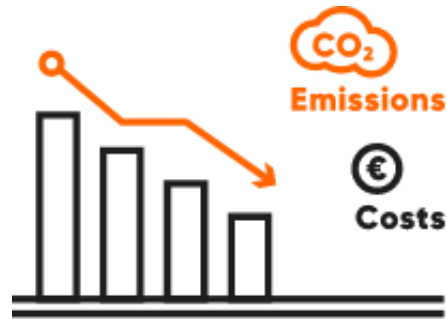


2020

HCI is scaling-up with collaborations between shipping lines and shippers on a dedicated "Green Lane"



EMISSION REDUCTION TARGETS: WE NEED TO ACT NOW!



SUSTAINABILITY TARGETS

By 2030: Shippers and shippinglines target for 50-100% CO2 reduction

By 2050: Most shippers and shippinglines want net-zero emissions

PRESSURE FROM THE PEOPLE IS GROWING



GOVERNMENTS/ IMO WANT ACTION

IMO wants the Maritime sector to reduce CO2 emissions by 40% in 2030 and by 70% by 2050

EU will take short term measures (via ETS and legislation) for the maritime sector to reduce CO2



OK, HERE'S THE CHALLENGE!

Over 800 million container movements per year in the world

- 20% at sea is empty
- 40% on land is empty

This results in 200 million empty movements **transporting air.**

This costs carriers and shippers:

- > 200Mton CO₂
- USD 25 Billion per year



IN CORONA TIMES, THE WORLD TURNED UPSIDE DOWN



North American **exports decline**

European and North American **imports increased**, mainly driven out of Asia

Spot container freight rates go **Through the roof!**

Container deficits in Asia increased with **1M Containers**. In other regions (US, Europe) there is a huge surplus

WHAT DO YOU FEEL FROM THIS AS A SHIPPER?

Container unavailability

Containers are regularly delayed because they are stuck in Europe or US.

Tariffs go crazy for 40Ft HC containers

Fees from China to Europe are > \$10.000. You pay for:

- The Headhaul China-Europe
- The Container
- Return of the Container to China



Very expensive and delayed ocean transport
Time and time again!





INTRODUCING: **THE MAJOR FOOTPRINT REDUCER**

- A Foldable 40 ft HC container which can be folded to 25% of its volume
- 4 folded containers become one interconnected bundle that is handled like one container
- Folding/ unfolding can be done with standard depot machinery in less than 10 minutes



SHIPPING GREENER & LEANER

Only if we cooperate all together we can attack empty container transport:

Shippinglines, shippers, ports, terminals



DEPOTS



TRUCK RAIL



TERMINALS



SHIPPING LINES



TERMINALS



TRUCK RAIL



DEPOTS

BARGE

BARGE

Up to 37% CO₂ savings and cost savings when implementing 4FOLD containers in the supply chain.



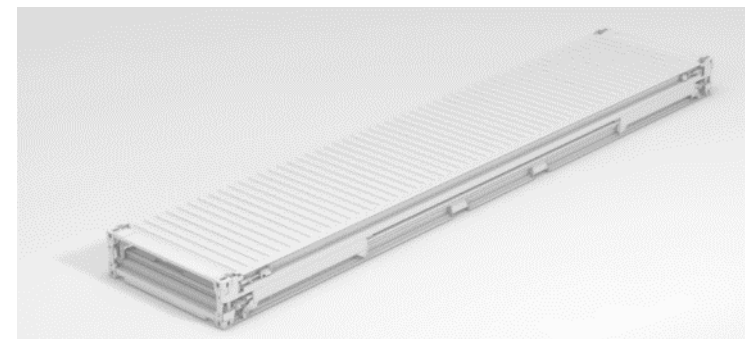
4FOLD IS CERTIFIED, QUALIFIED, TESTED AND PATENTED



- The first fully ISO and CSC certified foldable 40ft HC container in the world
- Having received multiple awards including a grant from the European Union (SME 2020)
- **11 patent families**
- **Piloted and used time by over 15 shipping lines and shippers by numerous brands at 60 depots and harbours in the world**
- Approved by UIC (International Union of Railways) and the Association of American Railways (AAR).



THIS IS HOW IT WORKS



IF THE WORLD IS UPSIDE DOWN, LET'S CHALLENGE THE ORDINARY

What does the Forwarder/ Carrier do?

The vessel and container are combined in 1 tariff:
The Sea freight tariff

What 4FOLD can do for you:

We unbundle the container, the headhaul and return tariff:

- We book the Headhaul China-Europe as a single trip
- We fold the containers in Europe
- We book the Return trip Europe-China for a batch of folded containers (1:4)

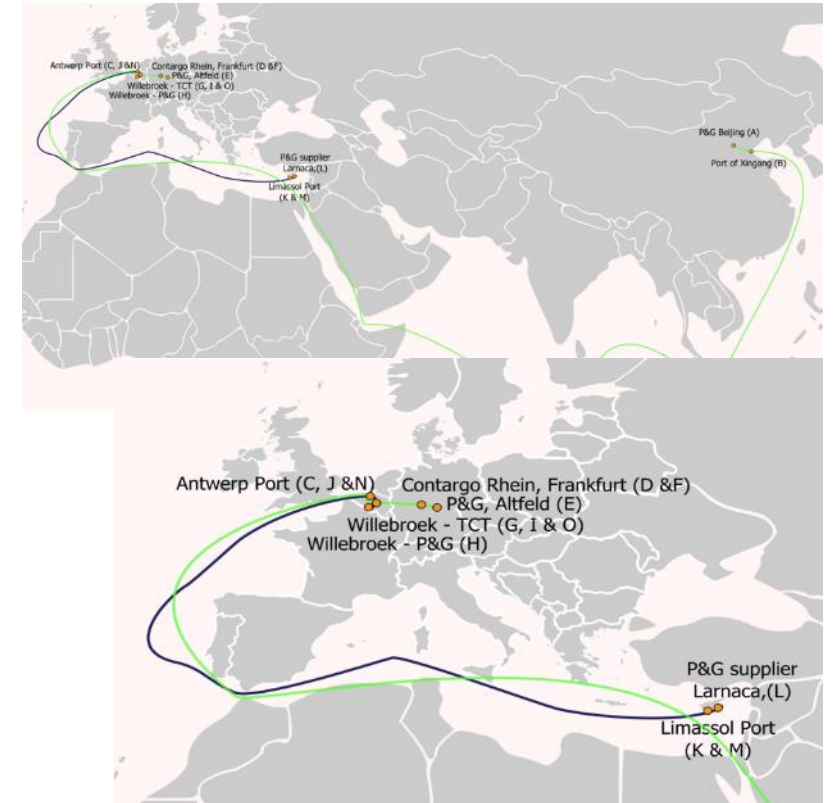
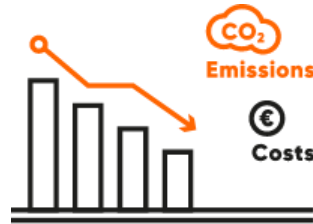
What do you gain?

- A saving of 15-20% Transport cost
- A saving of 20-30 % Emissions



4FOLD COOPERATION WITH P&G

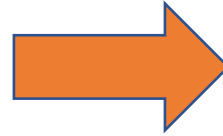
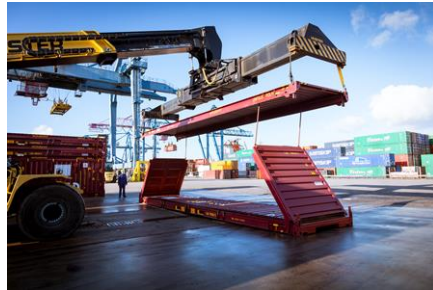
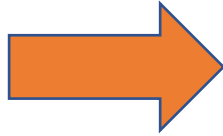
- P&G announced a partnership with 4FOLD at the European Research & Innovation days to ship foldable containers with several shippinglines on some of their big routes
- Mr Jim Hagemann Snabe, EIC Advisory Board Member and Chairman of the Board at Siemens and AP Moller – Maersk explained the future of innovation in Europe and the prime role he foresees for the EIC and mentioned the Foldable Container as one of the innovative examples in his speech: “The foldable container has been the shipping industry’s big dream.”



The 4FOLD Container fits well in the Sustainability strategy of P&G and the European commission and will help to reach CO2 targets earlier



What if we combine **4FOLD** with another polluting industry to become even more sustainable?



Fashion industry is a large polluter

>5% of global emissions



WATER
POLLUTION



WATER
CONSUMPTION



MICROFIBERS IN OUR
OCEANS



WASTES
ACCUMULATION



CHEMICALS
ADDICTION



GREENHOUSE GASES
EMISSIONS



SOILS DEGRADATION
AND DESERTIFICATION

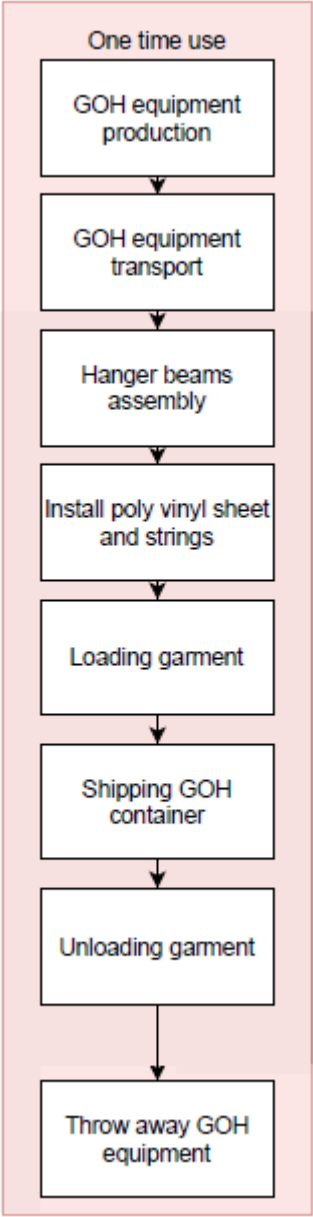


RAINFOREST
DESTRUCTION

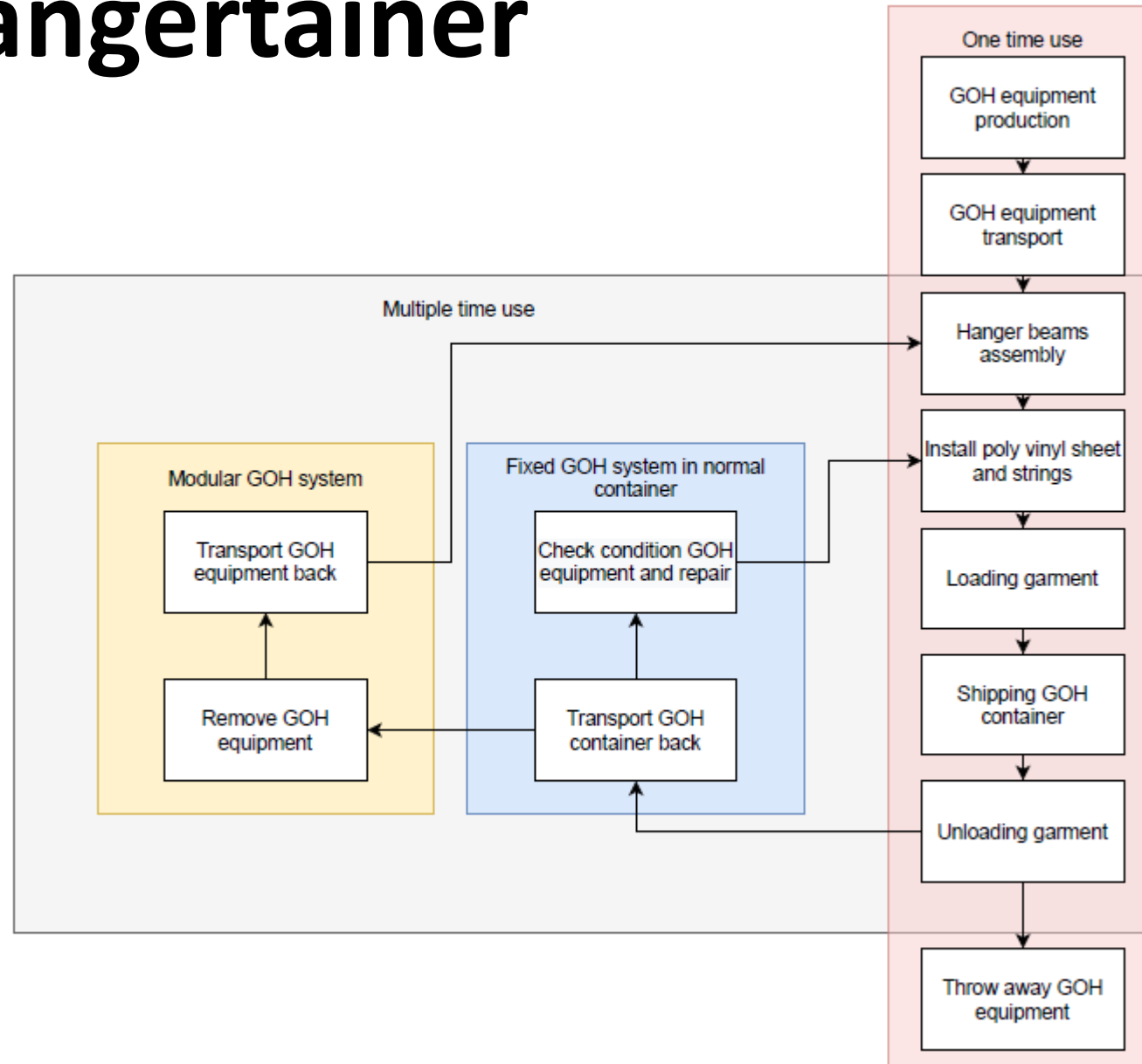
Source: <https://www.sustainyourstyle.org/old-environmental-impacts>

NB, >3% of global carbon dioxide emissions can be attributed to ocean-going ships

The Hangertainer

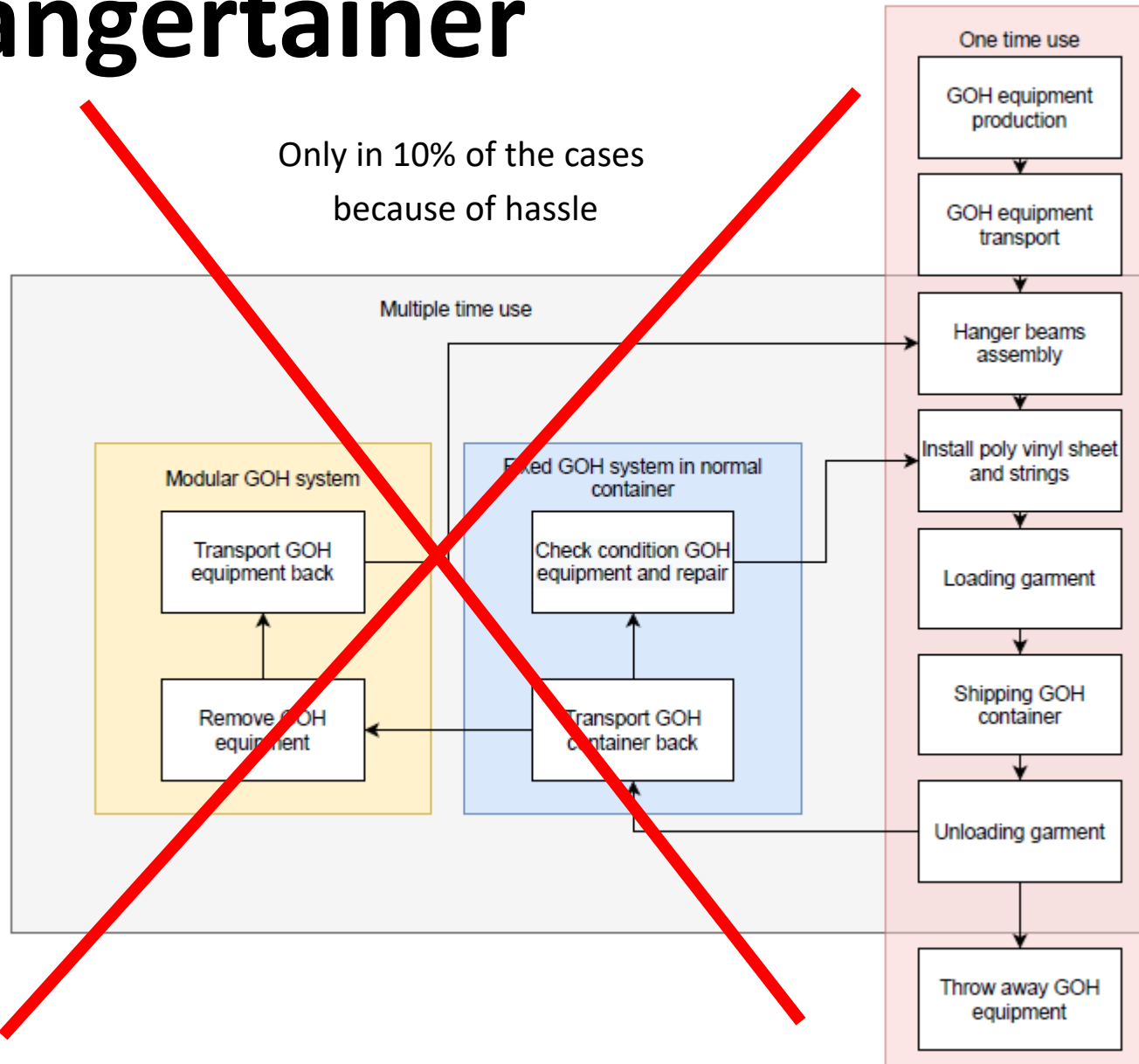


The Hangertainer

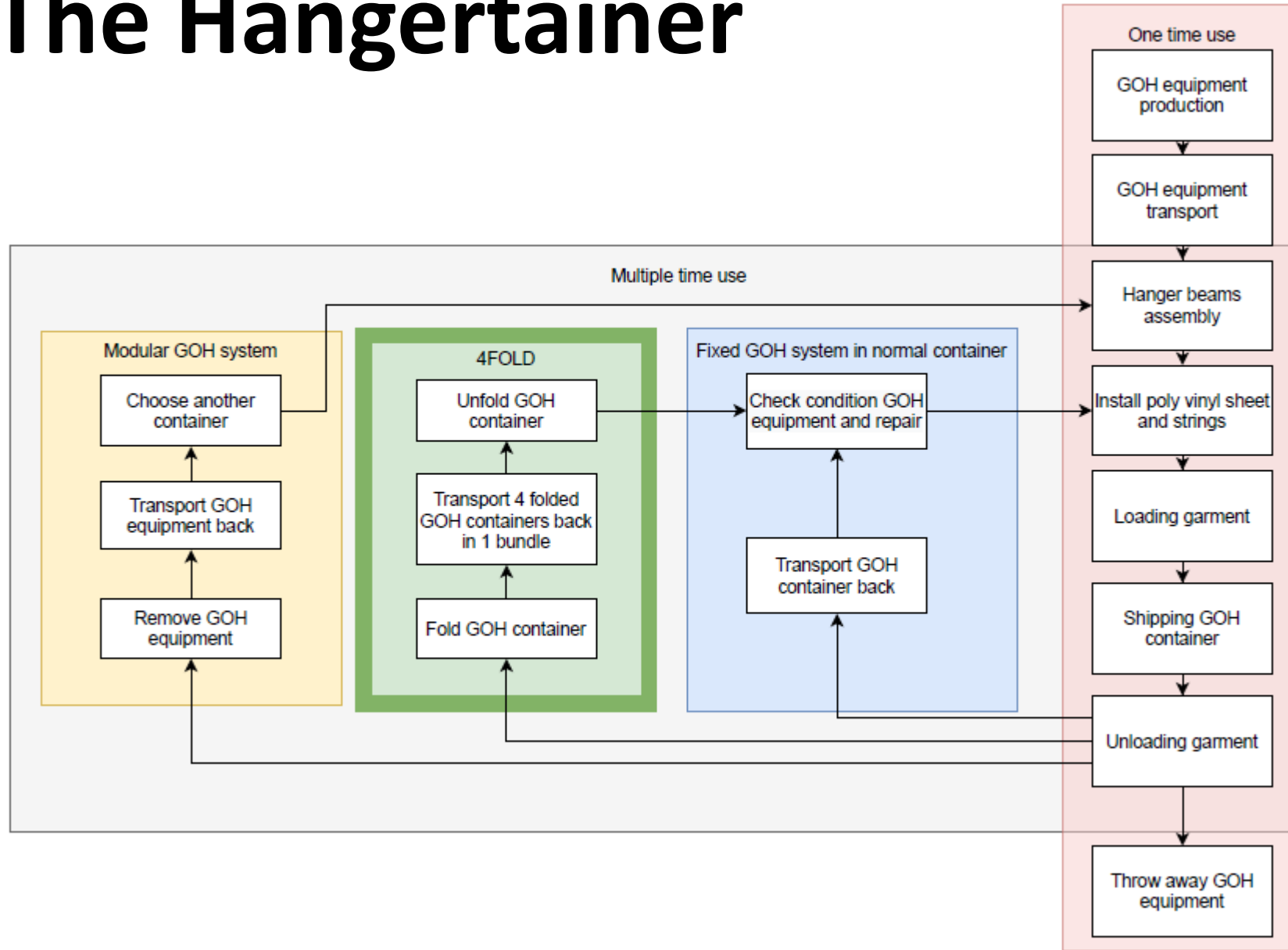


The Hangertainer

Only in 10% of the cases
because of hassle



The Hangertainer



Introducing the **4FOLD** Hangertainer

(Current) 40ft HC Hangertainer

- Pro:
- Easy way of transporting cloths
- Cons:
- Logistical nightmare (one-way use only) resulting in high repositioning cost
 - Additional damages (every roundtrip)
 - loss of parts
 - expensive and unsafe assembly / disassembly
 - low utilization rate
 - 20% of Hangertainers don't get recognized at the depot and therefore end up in the wrong locations when returned, resulting in high repositioning cost and lower utilization rate



(Near Future) 40ft HC 4FOLD Hangertainer

- Pro:
- Easy repositioning
 - High utilization rate +20% => Less containers needed
 - No loss of parts and no unsafe assembly
 - No setup and breakdown costs, because Hangertainers are fixed
 - The vinyl coverage, steel and robes will be reused
 - Sustainable (less) transport = less emissions = **ECO Friendly** product
 - No mistake in transport, folded bundles are easy to recognise



CO2 emissions GOH equipment

Total CO2 emission (in kg) for production and case Shanghai - Venlo - Shanghai

GOH equipment	CO2 (kg) normal container		CO2 (kg) 4FOLD	
	One time use	Multiple time use	4FOLD	Multiple use
Production	1278	34	34	
Shanghai-Venlo-Shanghai	2880	2888	1894	
TOTAL	4159	2922	1928	
Saving	0%	30%	54%	

Total CO2 emission (in kg) for production and case Shanghai - Stockholm - Shanghai

GOH equipment	CO2 (kg) normal container		CO2 (kg) 4FOLD	
	One time use	Multiple time use	4FOLD	Multiple use
Production	1278	34	34	
Shanghai-Stockholm-Shanghai	3269	3279	2156	
TOTAL	4547	3312	2190	
Saving	0%	27%	52%	



Cost savings GOH equipment

Total costs for case Shanghai - Venlo - Shanghai

GOH equipment	Costs (USD) normal container		Costs (USD) 4FOLD	
	One time use	Multiple time use	4FOLD	Multiple use
Production	600	70	70	
Shanghai - Venlo - Shanghai	3395	3395	2633	
TOTAL	3995	3465	2703	
Saving	0%	13%	32%	

Costs for producing the GOH equipment are only 18% of the total costs for a normal container

Total costs for case Shanghai - Stockholm - Shanghai

GOH equipment	Costs (USD) normal container		Costs (USD) 4FOLD	
	One time use	Multiple time use	4FOLD	Multiple use
Production	600	70	70	
Shanghai - Stockholm - Shanghai	4065	4065	3153	
TOTAL	4665	4135	3223	
Saving	0%	11%	31%	

Costs for producing the GOH equipment are only 13% of the total costs for a normal container



4FOLD Hangertainer, why not?

Shipper can start with the advantages of Hangertainers, with practically no risk of long-time commitments:

1. Large cost savings and sustainable transport of clothing
 - A lot of economic savings
 - No more rejected containers nor additional transport costs, hustle and annoyance
 - ECO Friendly containers, saving up to 30% on emissions for empty transport in comparison with current situation
2. Easy release of containers without last minute delays.
 - Due to availability of bundles of Hangertainer 4FOLDS been in stock close to the loading area.
3. Dedicated containers for Shippers
 - Good and the same quality at all times
 - Special designed containers which meets all strict requirements
 - Higher utilization rate of this dedicated equipment possible
4. Lower M&R costs, if HCI coordinates folding/ unfolding



WE ARE LOOKING FOR SHIPPERS LET'S CHANGE THE GAME TOGETHER

s.bosschieter@4foldcontainers.com



 **Holland
Container
Innovations**



Please send me an email to get the full report from R.A. Slingerland
Use of Foldable Containers in Garment on Hanger Transport
Or download it from [our website](#)

