



CNL's Implementation Projects for e-Trucks

A3PS Conference

Max Schachinger, Vienna | November 10, 2017



Challenge: reality of warehouse-labour



CO2, NOx, Particulate Matter and Noise



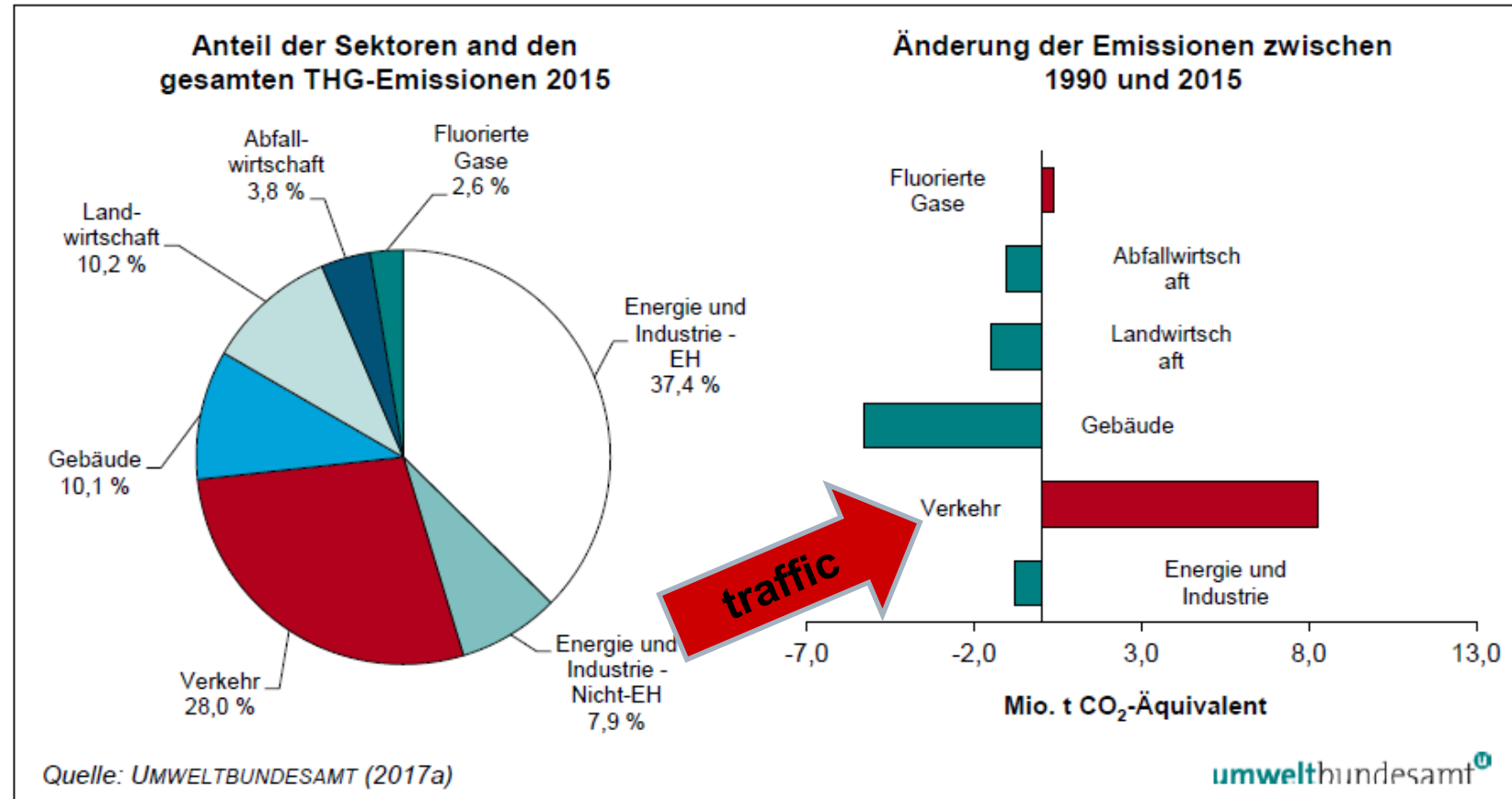
Challenge: Climate change

Climate change - reduction of CO2

traffic as main problem

beside CO2 also NOx
and PM/Particulate Matter

transport sector main cause of
CO2,
trend still going upwards



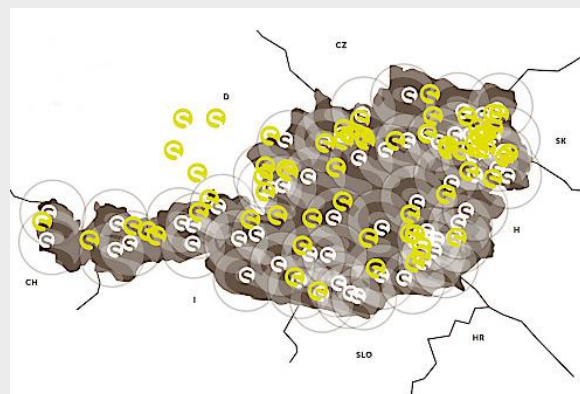
Austrian greenhouse gas emissions per sector and difference between 1990 and 2015

Essential Framework for final break-through of eMobility in the freight traffic sector

Further Development promoted by Research Funding



Availability of eVan and Charging Infrastructure



Regulatory Policies Framework



Conception of CNL



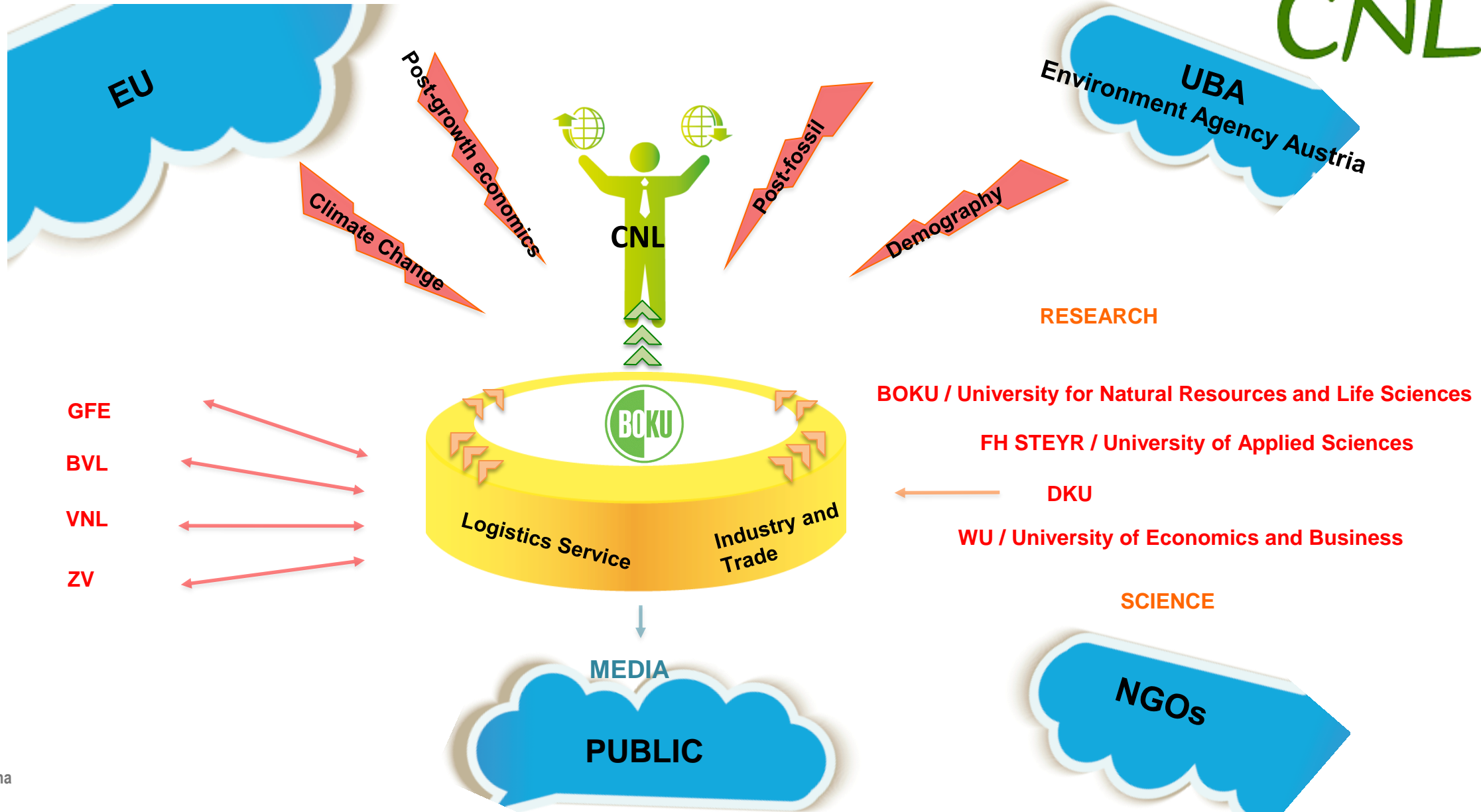
**First publically
elected 'Logistics
Manager of the year'**

**Award received by federal
minister,
28th of November, 2012**

Austrian Federal Minister Doris Bures, Max Schachinger

CNL - Cooperation of companies at its best

CNL



CNL - Cooperation of companies at its best

Members of Working Group ARGE CNL

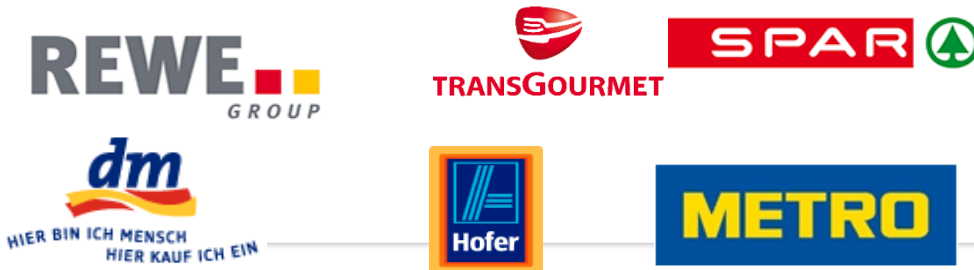
Production



Logistics



Retail/Trade



CNL

Main Focus

- Electric Commercial Vehicles
- Sustainable City Logistics
- Sustainable Warehousing

Counselor Werner Müller

„Unique in Europe, the cooperation of logistics, industry, trade and university should serve as a hub to promote a sustainable development of the freight transport and logistics sector.“
cover story „Verkehr“, 2014 03 28

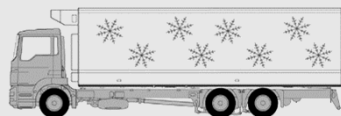
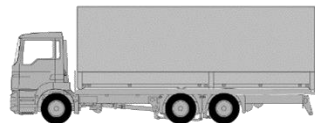




We make it real: Signing of the MoU at Steyr, February 2017



MAN eTruck specification for CNL

8 identical truck chassis, based on N44 with different bodies and 1 tractor, based on N28

Quantity	Variant	Configuration	Wheelbase (mm)	Lift Gate	Cooling	Range
4 N 44		Refrigerated LL Steered trailing axle	4725	Standard	HV-cooling	Up to 200 km
3 N 44		Swap bridge LL Steered trailing axle	4725	Under fold-able		Up to 200 km
1 N 44		Beverage box LL Steered trailing axle	4725	Normal		Up to 200 km
1 N 28		Tractor LL	3575			Up to 130 km

Technology in detail

- Base trucks:
MAN TGM 26.340 6x2-4 LL (N44)
MAN TGM 18.340 4x2 LL (N28)
- C- Cabin
- Full air suspension
- Tires 315/ 70 R 22,5
- N44: zGG 26.000 kg (Solo truck only)
- N28: zGG 18.000 kg, zZGG 32.000 kg
- Engine power:
Peak power 245 kW,
Continuous power 195 kW
- Torque:
Max torque: 3400 Nm,
Continuous torque: 2060 Nm

Gaining experience today for clean logistics tomorrow

- **9 Companies**
- **4 different MAN eTruck configurations**
- **3 major cities in Austria**
- **Operation in regular routes**
 - Included in daily operation
- **Gaining experience**
 - RIO boxes as standard for data tracking
 - daily tracking and evaluation
 - Efficiency optimization
 - Cost optimization

USE
CASES



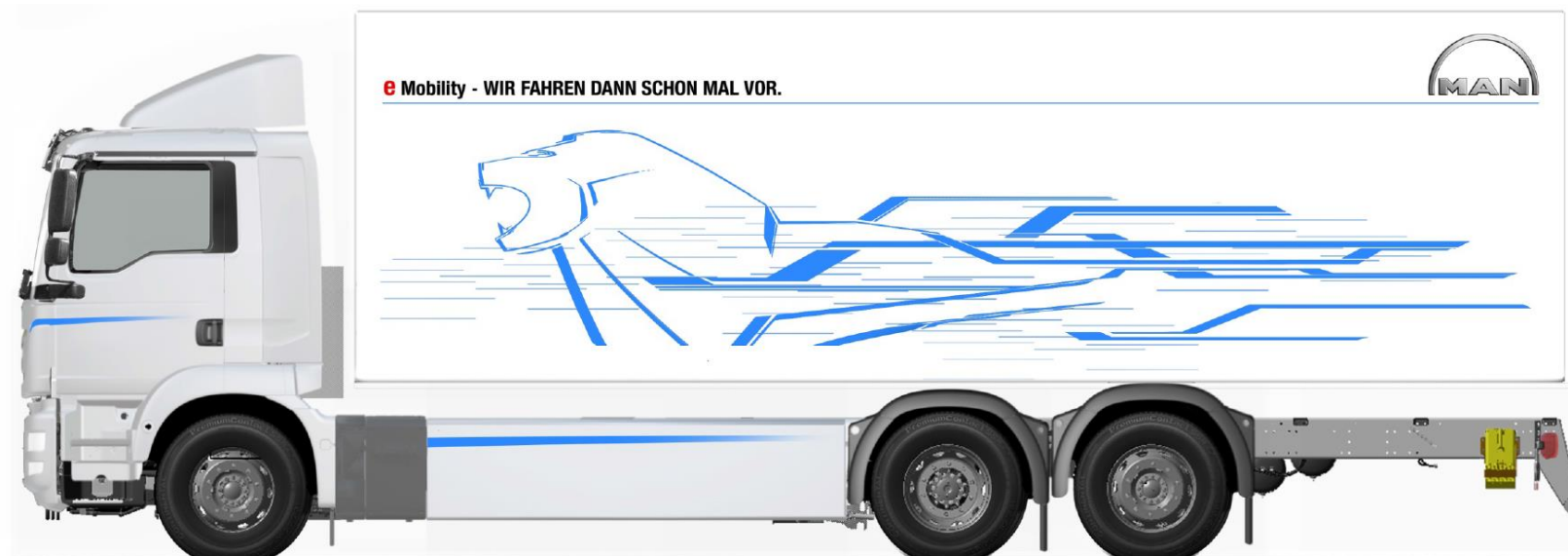
AC-Charging

- Up to 44 kW
- Charging time for 100 km app. 2,5 hours
- Vehicle interface: CCS Type 2



DC-Charging

- Up to 150 kW
- Charging time for 100 km app. 45 min
- Vehicle interface: CCS Type 2



Present and future TCO of eVehicles



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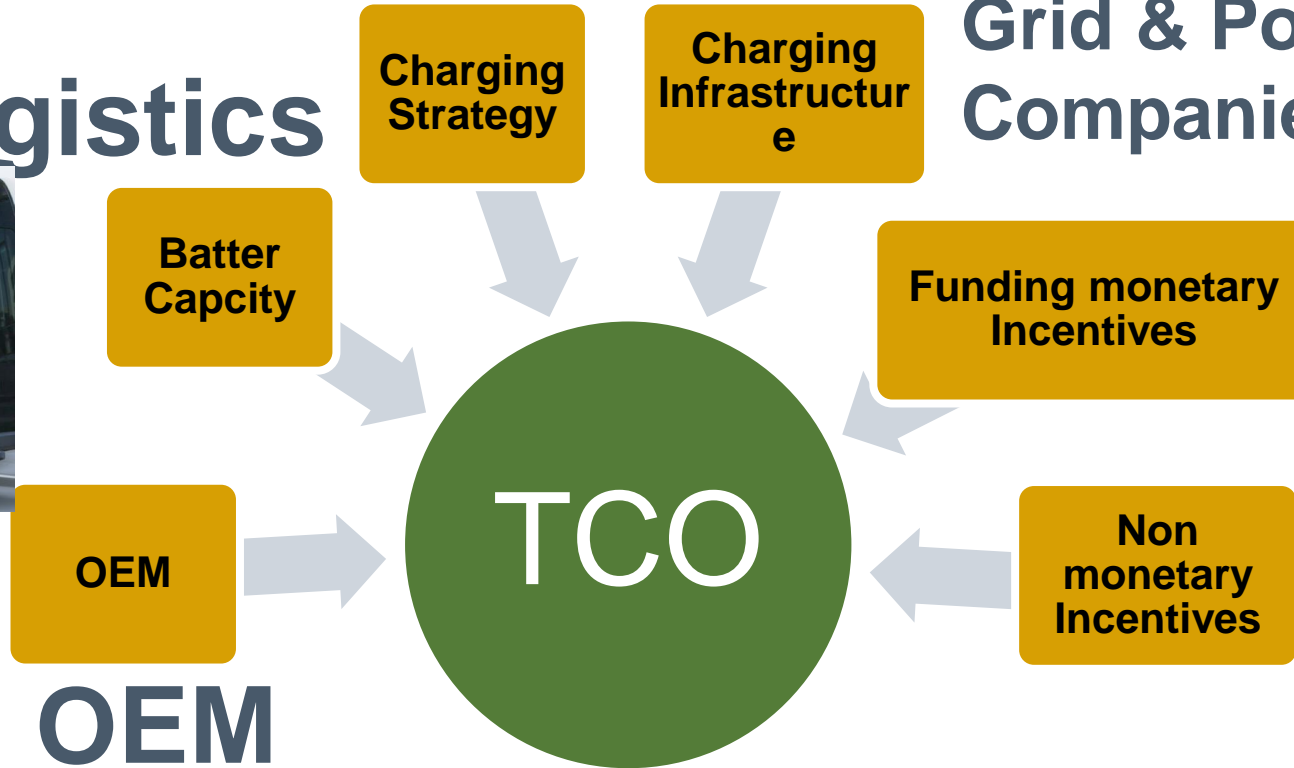


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Logistics

Grid & Power Companies

State & Citys



- Within CNL, participating companies get informed about newest developments, innovations and technology for sustainable logistics
- Derivation of ecological, social, political and legal as well as economical aspects
- Every quarter meetings of participating companies including speeches, lectures and papers
- Opportunity for exchange and networking





Der Mensch in nachhaltiger Logistik

Arbeiten im Einklang – künstlerischer Wettbewerb

Wie kann man mit künstlerischen Maßnahmen die **Aufmerksamkeit** und den **Respekt vor den Waren** und der **eigenen Arbeit** erhöhen und die Fehlerquoten senken?



