



CLAUT

SAMEN SNELLER INNOVEREN VOOR EEN CIRCULAIRE ECONOMIE

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ALV COMPOSITE-NL, 27-11-2019

COMPOSIET

- Lichtgewicht toepassingen
- Mogelijkheid om volledig biobased te zijn
- Minder onderhoud, langere levensduur en hoogwaardig hergebruik





RECYCLING?



hogeschool
Windesheim

 **Claut**
Circular Automotive

COMPOSIET

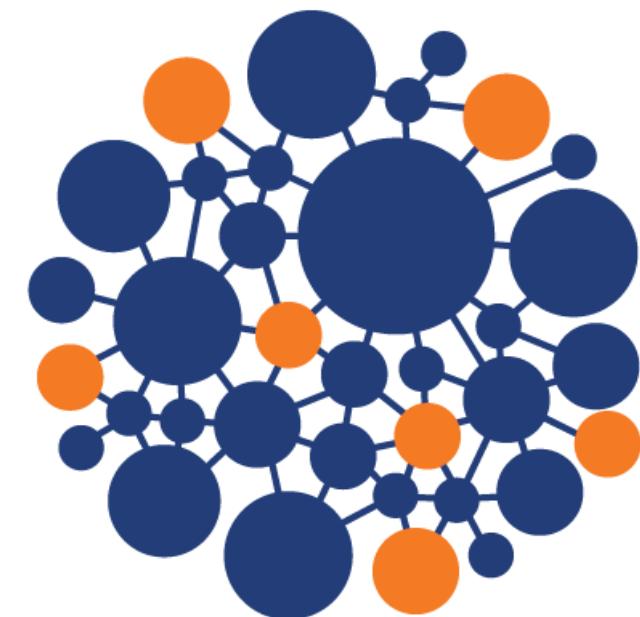
- Mogelijkheid om volledig biobased te zijn
- Nieuwe productiewijzen
- Recycling



NATIONALE SAMENWERKINGS- AGENDA COMPOSIET

- Composiettechnologie is een van de technologieën waarin het ministerie van EZK een potentieel ziet binnen het missie gedreven beleid.
- Rol van innovatiemotor





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CIRCULAR ECONOMY: MORE THAN FINANCIAL VALUE

- BUNDLE STRENGTHS AND KNOWLEDGE THROUGHOUT THE CHAIN, TO MAKE SMARTER USE OF RAW MATERIALS, MODULAR PRODUCTION, PROLONGING LIFETIME
- CLOSING THE LOOP BY SUPPORTING NEW MOBILITY CONCEPTS SUCH AS ELECTRIFICATION AND AUTONOMOUS DRIVING.



Financial



Social



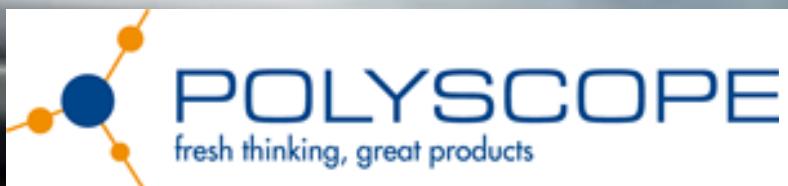
Ecological



Information / knowledge

CLAUT IS A CIRCULAR AUTOMOTIVE PLATFORM

- BASED ON COOPERATION BETWEEN CHAIN PARTNERS
- FOCUSING ON THE TOTAL CYCLE OF USE
- CLOSING THE MATERIALS LOOP BY GENERATION OF CIRCULAR BUSINESS MODELS



initiated CLAUT
since 2014

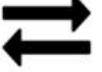




2015

ACCELERATE
TOGETHER
IN THE TRANSITION
**TOWARDS A
CIRCULAR ECONOMY**
THAT IS WHAT CLAUT IS ALL ABOUT



Principle 1	Principle 2	Principle 3	Principle 4	Principle 5
				
Retain values Retain values and optimize use of products and materials; Redefine value creation vs risk	Access over ownership From products to services; New Business Models	Exchange of multiple values Economical, Social, Ecological, Informational ...	Partnerships and chain management Co-creation between trusted stakeholders in clusters Chain management	Users steer proactively 'Pro-sumers', Bottom-up initiatives Decentral, 'Starfish' organisations instead of 'spider' organisations

CLAUT: OUR PHILOSOPHY

Eindhovense start-up komt met elektrische deelauto

Altijd een elektrische deelauto op loopafstand overbodig te maken. Dat is het doel van Mobility. Binnenkort begint de start-up met autodeelservice voor medewerkers van ABN AMRO.

Gebruikers, die € 33 per week moeten gaan met een app zien waar de dichtstbijzijnde auto overal worden geparkeerd. Voor Nelemans is dat mogelijk omdat het bedrijf de vraag waar een deelauto nodig is en de sturen.



NIEUWE MOBILITEITS ECONOMIE

Limburg elektrisch

Het Financieele Dagblad
Vrijdag 2 november 2018 | 15



Een Volvo S90 als decorstuk bij een paneldiscussie over zelfrijdende auto's in Peking, in oktober 2016

FOTO: REUTERS

Autobouwers sluiten allianties voor bouw zelfrijdende wagens



CLAUT MATERIALS RECYCLING PROJECT

- Post-industry recycling of PP / PET mixture
- Injection Moulding
- Wheel arch insulation

- Experience of co-creation
- Recyclate vs. Virgin
- Exchange of new developments
- Use of each others specific facilities

CIRCULAR SUNROOF SYSTEM PROGRAM

4 year program OP-Zuid

- Focus on design
- Lightweight en optimale functionaliteit
- Thermoplastic composites

The Entire Value Chain

- Valuable insights and know-how
- Speed up development process
- Create innovative, competitive solutions
- Expand market opportunities for all partners

 European Innovation Programmatic Project Network
 European Union
European Regional Development Fund
 Netherlands Circular Economy
MIT-ZUID
 Circular Sunroof System Program

Circular Sunroof System Program

An innovative partner program to drive business value

Driven by innovation and a low-carbon, circular economy we are co-developing a Sunroof Frame system with:

- Lightweight and optimal functionality integration
- Focus on latest technology (hybrid) composite thermoplastic solutions
- Potential re-use of materials with maintaining value
- A long term sustainable platform.



By joining forces with partners from the entire value chain we can:

- Gain valuable insights and knowhow along the value chain
- Speed up development processes
- Create innovative, competitive solutions
- Expand market opportunities for all partners.

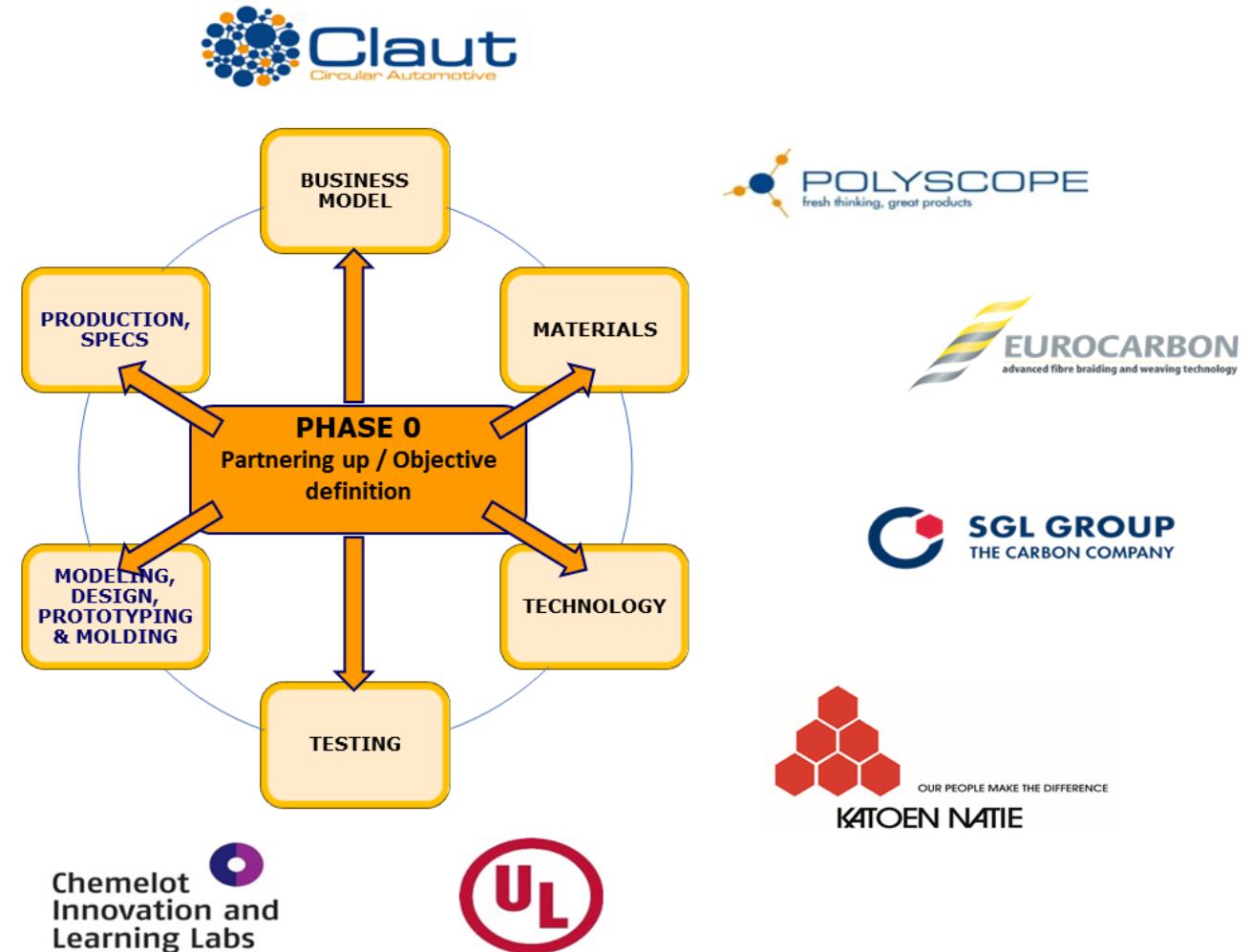
 Claut
Circular Automotive  EUROCARBON
advanced fibres making and recycling technology  KNSKOM
KNM
KNM KNSKOM  POLYSCOPE
fresh thinking, great products

CIRCULAR SUNROOF SYSTEM PROGRAM

OEM

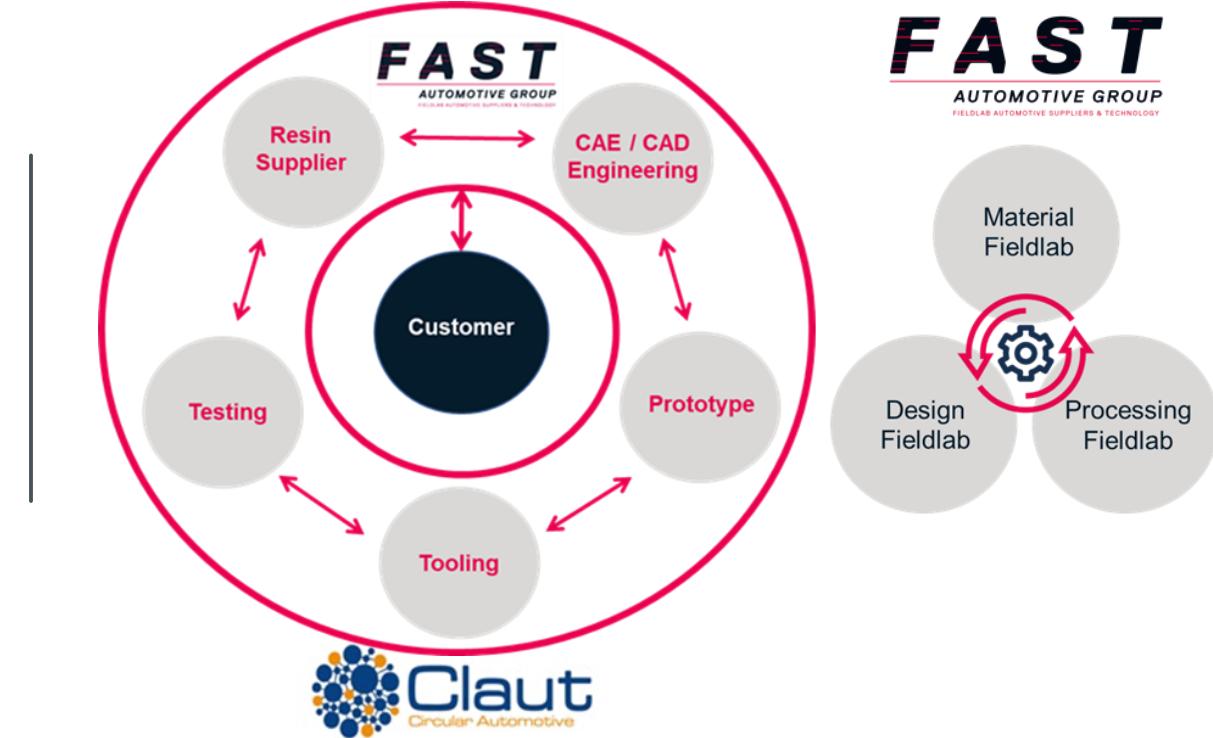
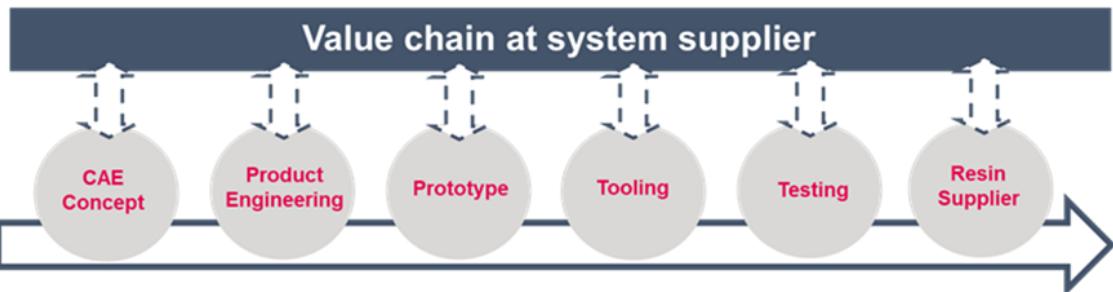


MOLDER



Traditional approach

- Sequential and transactional development process
- Focus on cost, lead-time and performance per activity, not on system-level



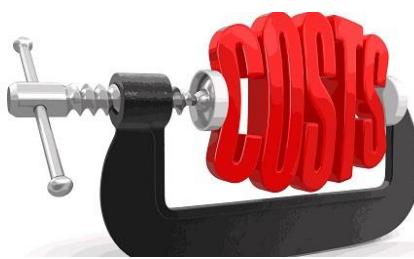
CIRCULAR APPROACH

- Simultaneous co-development & open innovation
- System level approach
- Highly efficient and effective
- Resulting in improved Quality & reduced Leadtime

THE CAUSE FOR THE EMERGENCE OF A NEW BUSINESS MODEL



Mega-trends driving innovations



Continuous cost pressure



Lack of technical professionals



2014-2015
Circularity development in product and process



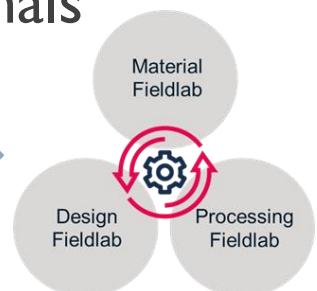
Q3 2015
Foundation of CLAUT

Q3 2017
Kick-off CSSP Program

Q3 2018
Launch of FAST Automotive Group

Q1 2019
First business awards from Tier-I

Q2 2019
Launch of FAST 2.0 business plan



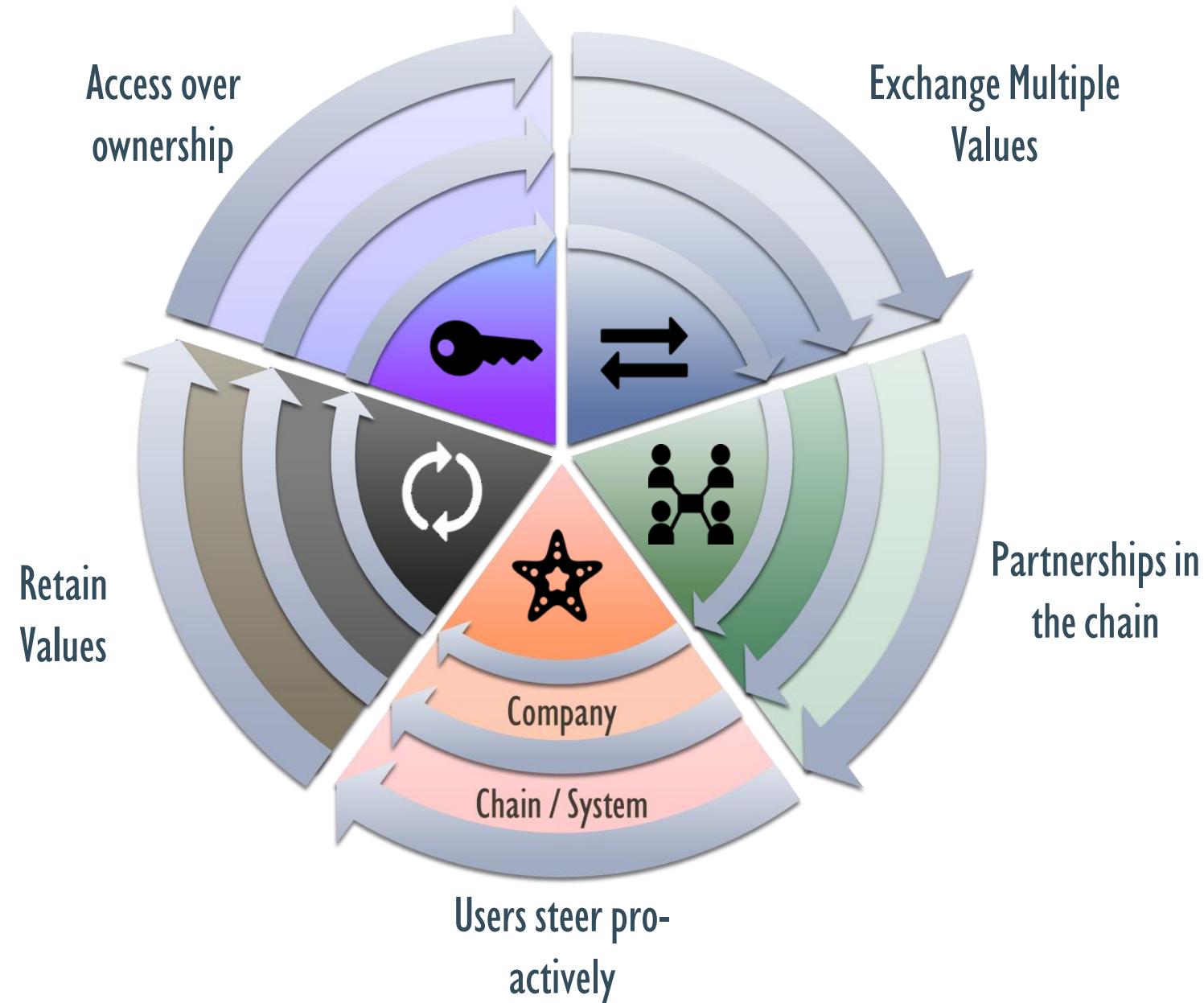


...en in 2020?

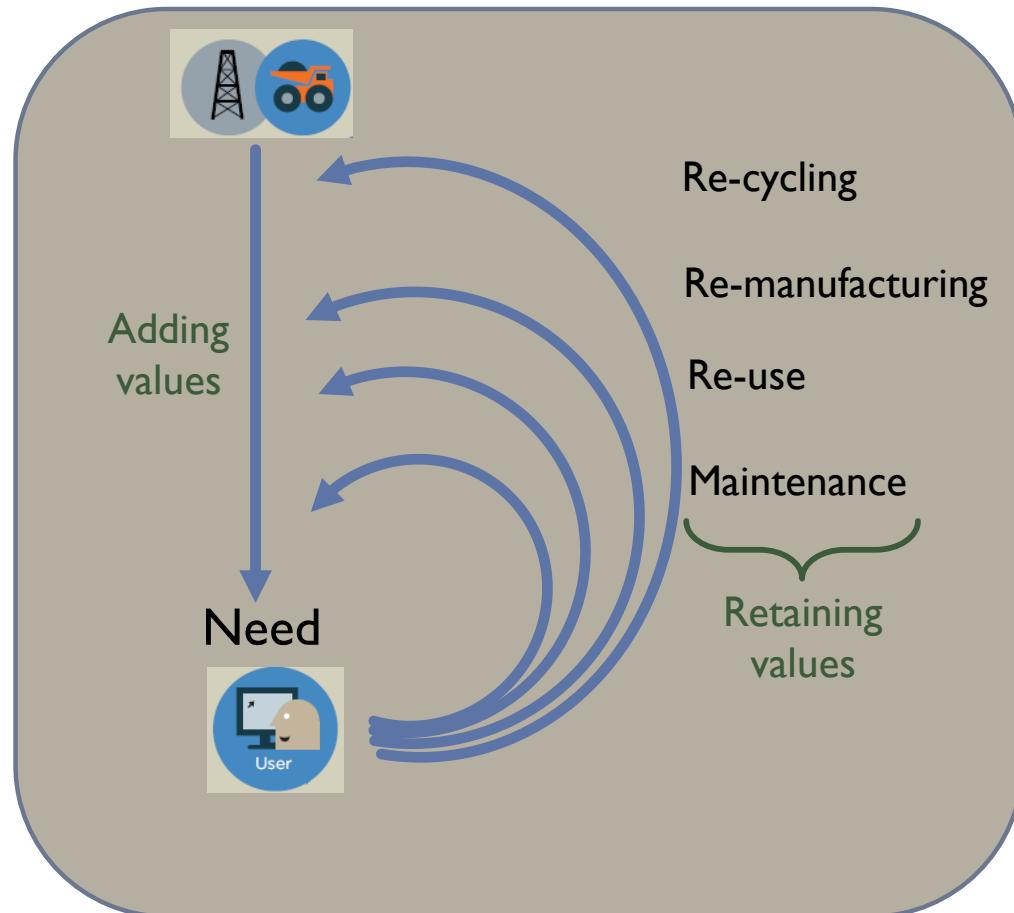
Wij beloven dat door value chain regie in programma omgeving de innovatie versnelling gemaakt kan worden naar een circulaire (mobilitets) economie



CIRCULAR ECONOMY SCAN



RETAINING VALUES



- Where/how in your (production) process can you retain values in your product?
- What circular design can be applied?
- Where/how in the chain can values in your product be retained?
- How does this impact or introduce opportunities on the other aspects?

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**Composite NL
Workshop**

**Bewustwording &
Informatie**

Challenges

boven water krijgen

CE-scan

**Netwerk &
Matchmaking**



Business Modelling

Financiering

Pilot-support

**CLAUT brengt organisaties, start-ups en scale-ups samen om
die challenges op te lossen**

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