



WELCOME

Corponet Kennisbite

Ir. B.Arch. Sultan Cetin-Ozturk

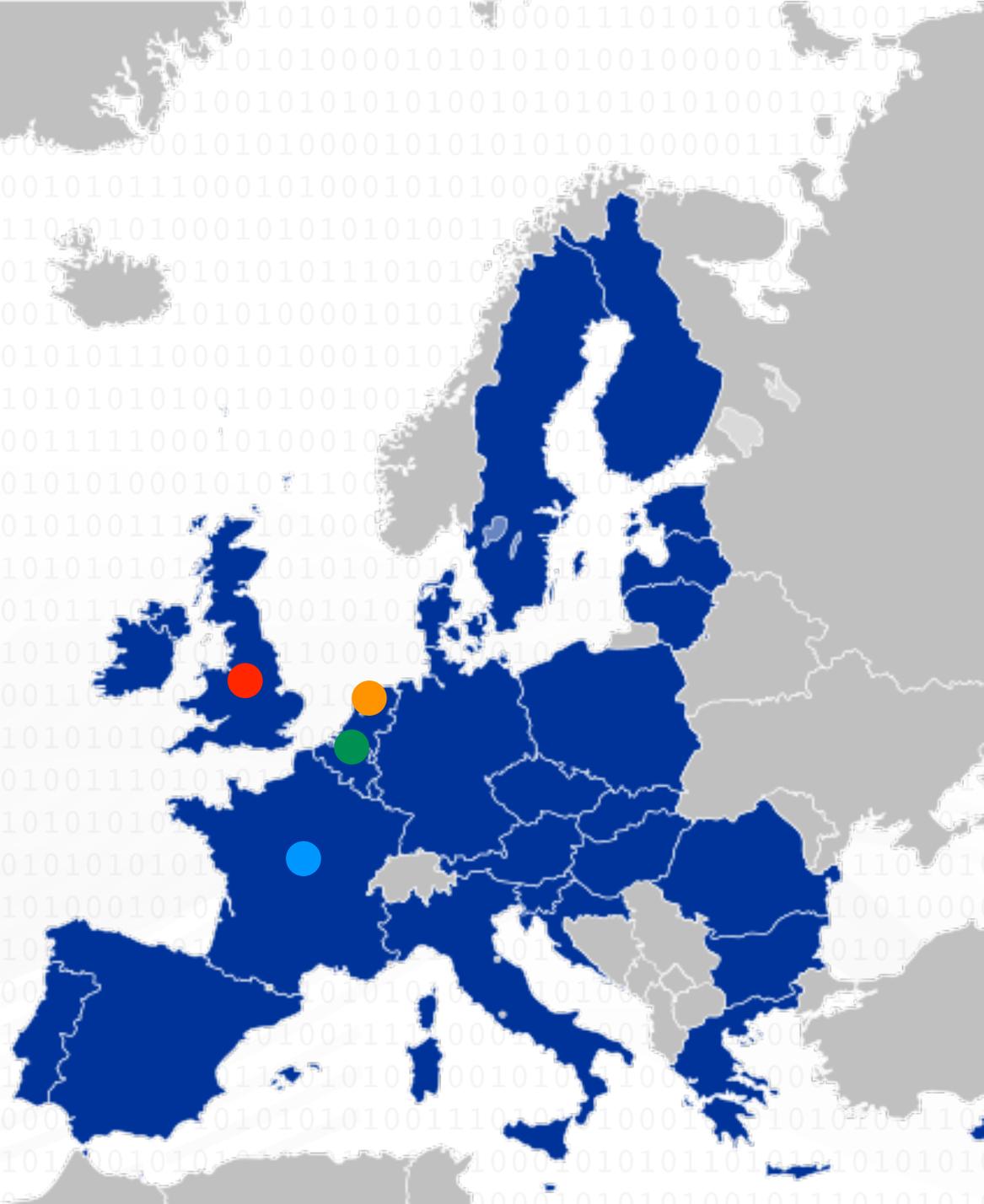
PhD Researcher in Housing Management

s.cetin-ozturk@tudelft.nl / 0615912472

<https://www.linkedin.com/in/sultancetin/>

Three main outputs of the project:

1. Circular building strategies tested in demonstration exemplars,
2. Guidelines for a circular procurement strategy for social housing organizations,
3. Material exchange platforms to enable circular flows of materials and building components in the social rented sector.



Who is here with us today?

Circular Housing 4.0



Image by Murray Art

What would you do?



Image by Crawford Jolly

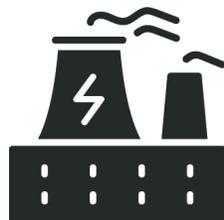


Images by Unsplash

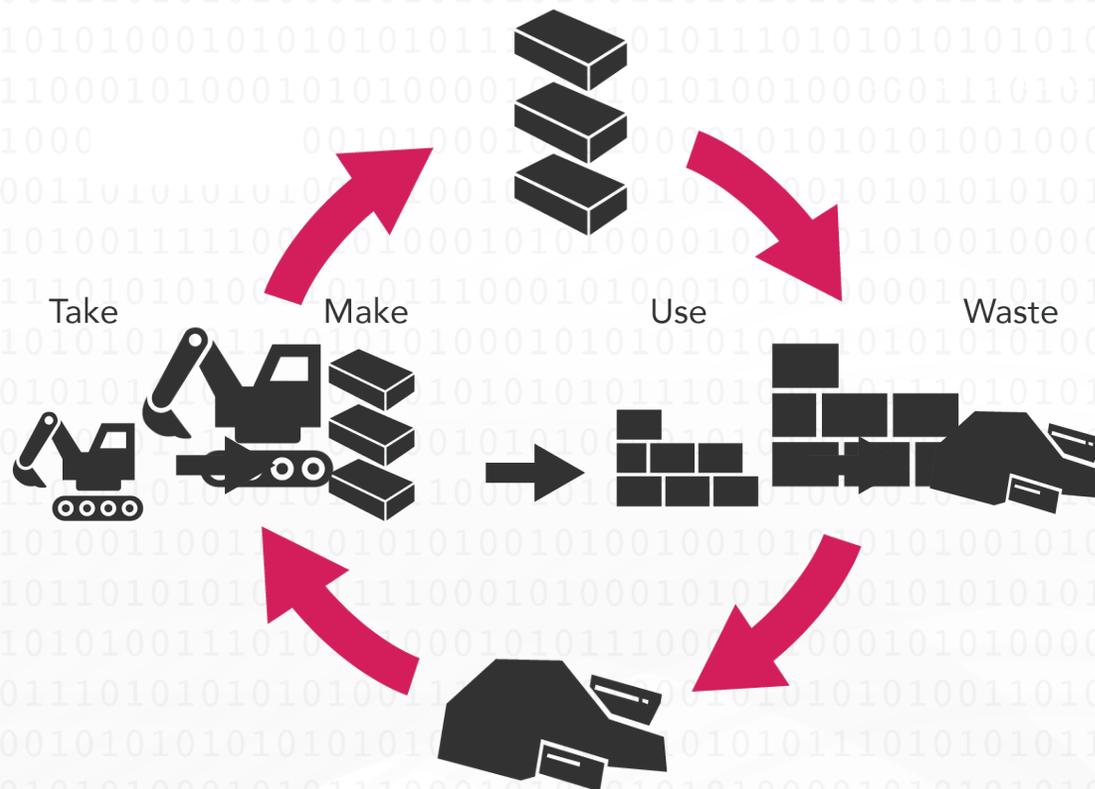
30-50%



1/3



1/3

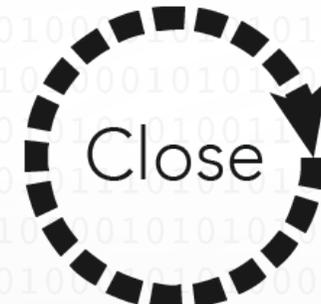




Use fewer resources



Extend useful time



Recycle



Social housing



EU



NL

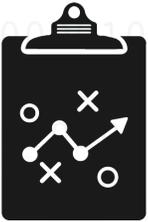
Source: (Pittini et al., 2019)

1. Scale
2. Professional portfolio man.
3. Sustainability
4. Economic pressure
5. Societal impact

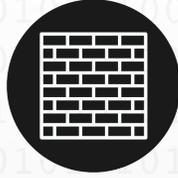


Tasks of SHOs

Strategic



Day-to-day



Based on (Priemus, 1999)



Image by Het Parool

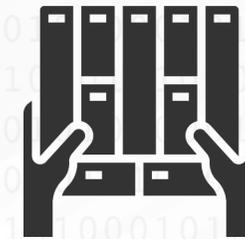
Digital technologies

(1) Obtaining and managing information



Location, condition and availability

(2) Enabling CE business models



ie. product-service systems,
sharing platforms

Literature Tree Digital Technologies for CE

Generic

(Ashima et al., 2017; Ávila-Gutiérrez et al., 2019; de Sousa Jabbour et al., 2018; EMF, 2016; Jawahir & Bradley, 2016; Kerin & Pham, 2019; Lacy, 2015; Lacy et al., 2015a; Neligan, 2018; Okorie et al., 2018; Tronchoni & Brennan, 2017; Wilts & Berg, 2017, 2018)

CE Business Models

(Alcayaga et al., 2019; Antikainen et al., 2018; Bag et al., 2020; Bressanelli et al., 2018a, 2018b; Garcia-Muiña et al., 2019; Jabbour et al., 2019; Pagoropoulos et al., 2017; Parida et al., 2019; Planing, 2017; Rajala et al., 2018; Salminen et al., 2017)

(Damen, 2012; Gligoric et al., 2019; M. Heinrich & Lang, 2019; M. Honic et al., 2019; Meliha Honic, Kovacic, & Rechberger, 2019; Kovacic et al., 2019; Luscuere, 2017; M. R. Munaro et al., 2019; Ness et al., 2015; Rose & Stegemann, 2018; Sijbring et al., 2020; Smeets et al., 2019)

Material Passports

(Berg & Wilts, 2019; A. Gupta, 2019; Han & Jin, 2019; Konietzko et al., 2020; Migliore et al., 2020)

Platforms

AI

(Ghoreishi & Happonen, 2020; Selvan Ramadoss et al., 2018)

Big Data

(Gupta et al., 2019; Jabbour et al., 2019; Nobre & Tavares, 2017; Tseng et al., 2018)

BIM

(Aguiar et al., 2019; Akanbi et al., 2018; Charef et al., 2019; Dautremont et al., 2019; M. Honic et al., 2019; Meliha Honic, Kovacic, Sibenik, et al., 2019; Kovacic et al., 2019; Nazareth, 2019)

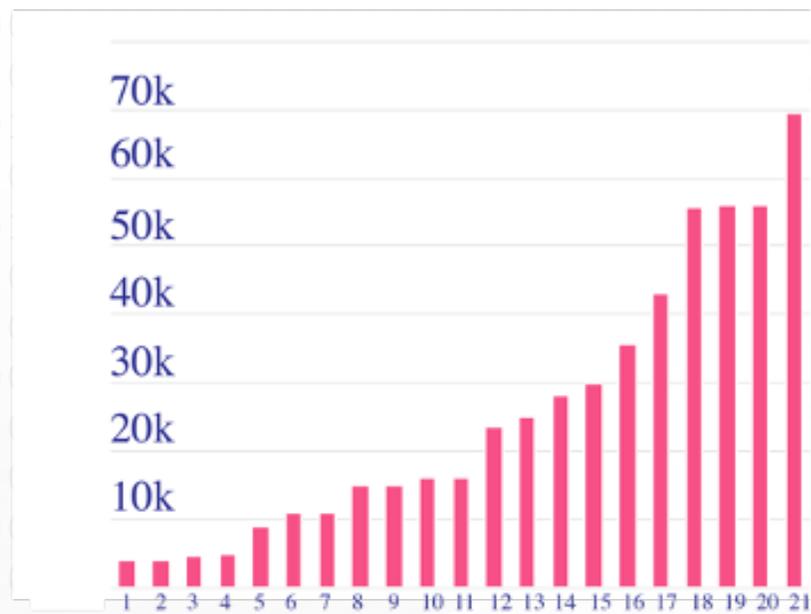
Blockchain

(Achterberg, 2019; CAarbone et al., 2018; Casado-Vara et al., 2018; Faber & Jonker, 2019; Kouhizadeh et al., 2019; Rusinek et al., 2018; Vogel et al., 2019)

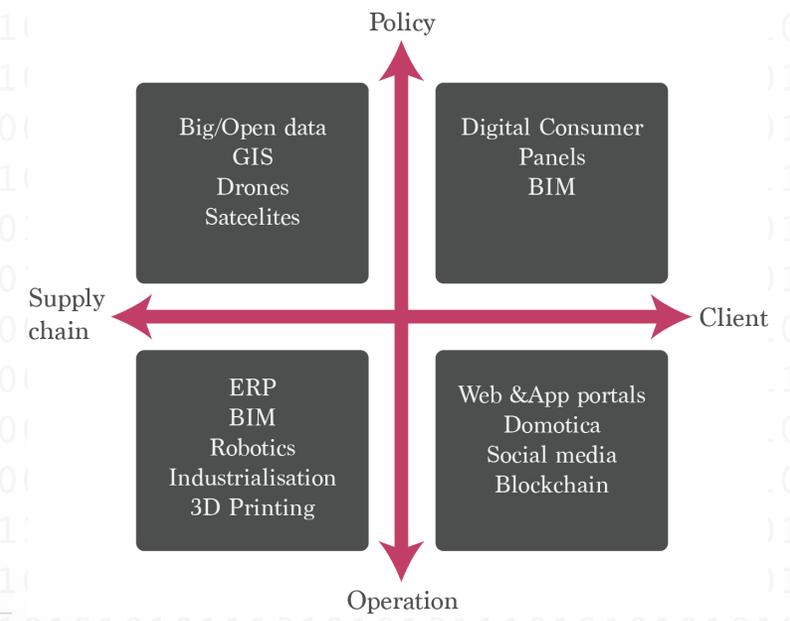
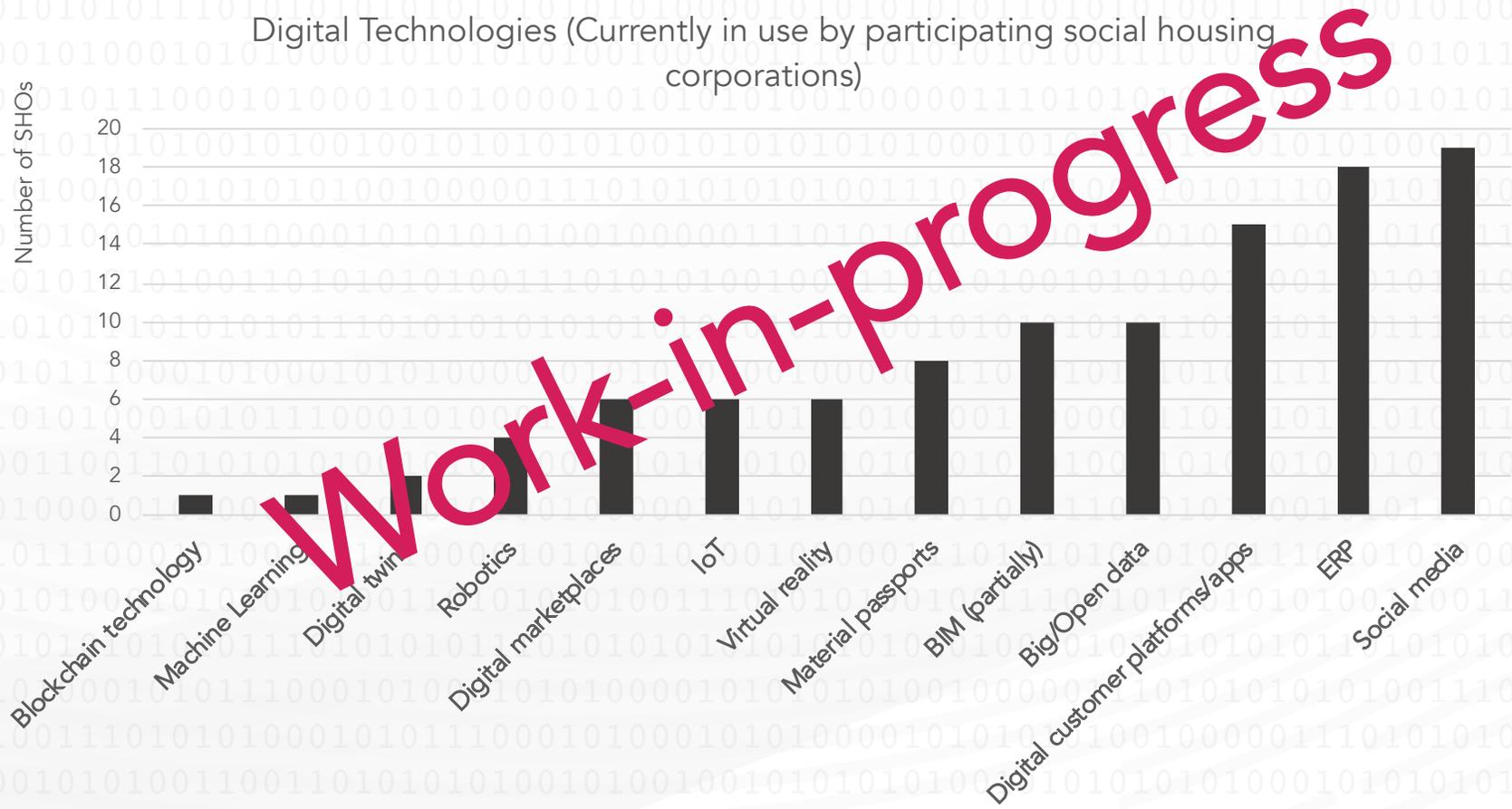
IoT

(Askoxylakis, 2018; Gligoric et al., 2019; Hatzivasilis et al., 2018; Nobre & Tavares, 2017; Romero & Noran, 2017)

Current study

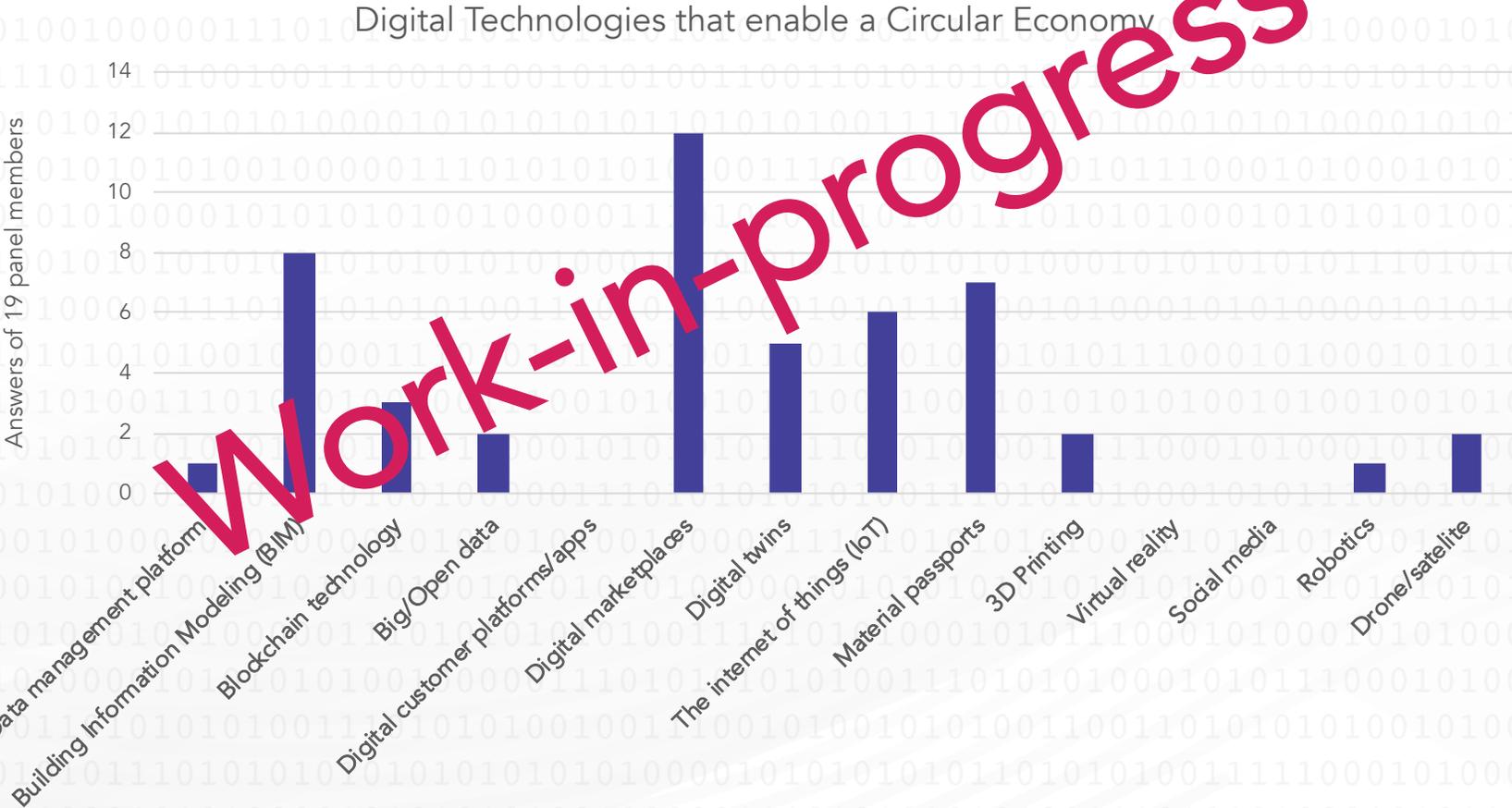


Round 1-Results



Source: (Gruis, 2018)

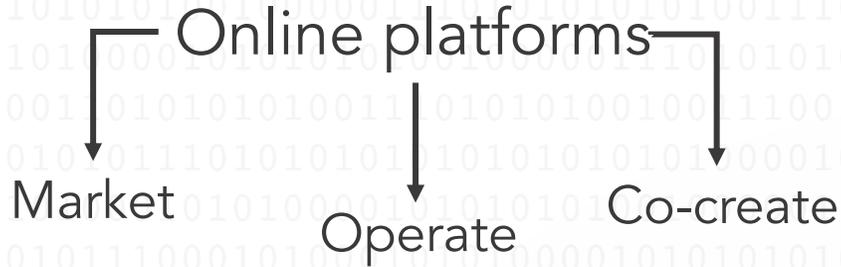
Round 1-Results



Any other technology you want
to add?

-taxation models

Digital Platforms for Circular Housing 4.0

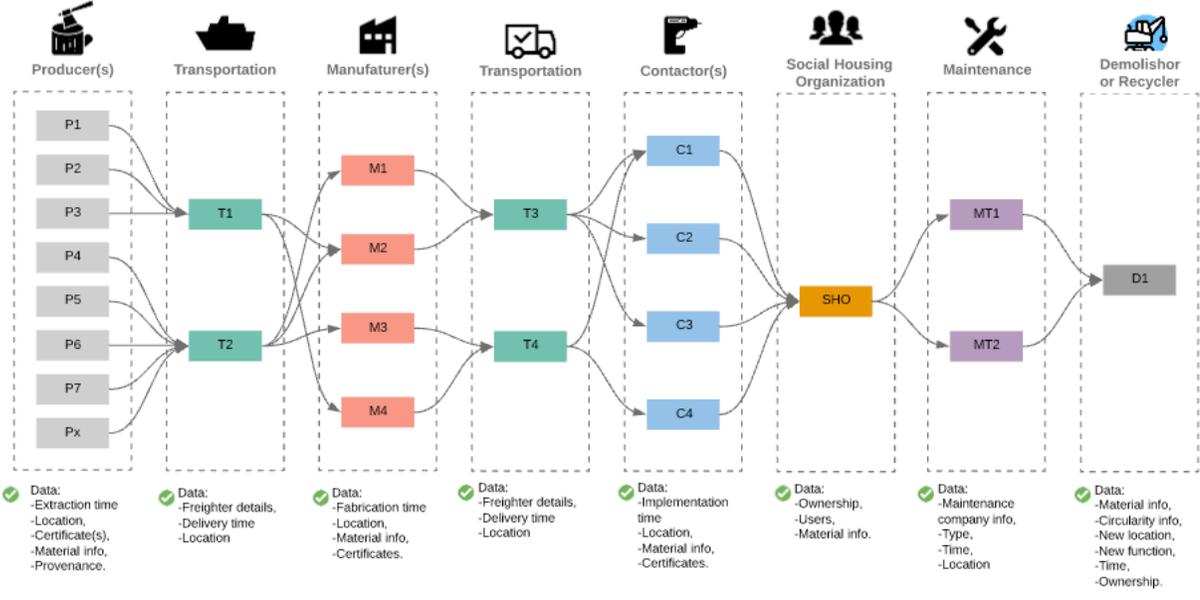


Source (Konietzko& Bocken, 2019)

(1) an in-company resource management platform which narrowing, slowing, and closing the loops strategies enabled,

(2) A digital marketplace where reclaimed building parts exchanged (within the same SHO) or traded (with external actors) by creating a circular business ecosystem together with regional value-chain partners.

Blockchain



<https://www.youtube.com/watch?v=SDjOVR0NrUY>

The end...