## Title: [Towards a Circular Economy: Catalysing Action](http://www.smartcityexpo.com/en/the-event/media-center/sessions-2017/agenda/-/agenda-actividades/-Towards-a-Circular-Economy%253A-Catalysing-Action-/993426)

Subject: Data Drive cities

* Circular Economy

Abstract:

In a world of finite resources, Circular Economy thinking is rapidly capturing attention as a way of decoupling growth from resource constraints. Moving to a more restorative economic system powered by waste management, green industry, and low carbon technologies has indisputable advantages. New models of development and business strategies are needed in order to address unsustainable patterns of consumption and production. How to accelerate the transition in both public and private sector?

Speakers:

#### Burcu Tunçer

#### Oleg Sadov

#### Eduard Barcons Comellas

#### Eduardo Fernandez Giménez

#### Elena Ruiz

#### Jordi Oliver-Solà

Conference:

good morning everyone hello what is one

SDS

welcome to the second session of the

circle economy track we'll be talking

about actions in this session and there

will be catalyzers speaking about the

last generation tools but just first

remember maybe based on the previous

session why circular economy well each

of us has a certain backpack of material

use material footprint and if you're a

European how many Europeans are here so

you have 33 tons of material use per

year and how many trucks will that be

just shoot

how many five well 10 trucks of material

that you're producing every year and

obviously that is not really sustainable

and it's not helpful for all the global

environmental challenges we are facing

and according to the scientists working

on resource efficiency the resource

efficiency panel of unit we have to

reduce this by 80% and just by doing

some correction of the edges or

incremental change it's not possible we

need radical change we need new types of

business models and exactly this is what

circular economy can provide us with for

example take your household goods like

all the machines that you were using

this morning and all the way that you

have during your lifetime they can be

maybe 50 percent more efficient if you

just use sharing if you use recycling

reuse and so on and that's exactly the

transition we are heading for and how to

do this transition the catalyzers

of this transition now I would like to

introduce them to you for this session

and first of all my name is Bordeaux

huija to ensure I'm from unep center

here in Barcelona working on sustainable

consumption production we work in the

Mediterranean region and work actually

with some of the panelists here so I'm

very happy to tap into their experience

and hope you can also enjoy the session

and well join the dialogue to join a

dialogue please remember maybe you use

it already from last year there's an ask

and vote app that you have you can reach

it at w w dot Smart City Expo com - ask

and vote exactly there so you can post

your questions already and I'll be

picking them up well as soon as I have

my pal with me so who do we have here I

would like to kindly invite our very

distinguished speakers first of all

Eduardo Fernandez Jimenez from orbital

probably you know the famous company or

in waste management please have a seat

Eduardo perhaps / thank you second

speaker the only lady in the panel Elena

with from for Atika which is a business

membership organization welcome is

enough then my colleague Jordi Oliver

Sola who is coming from in edit and in

led the spin of Wahby welcome Jordi Jan

we have our colleague Eduardo outcomes

come is it worth brings a lot of

experience from Paree Google a very

gather County here in Catalunya and

finally we have a guest international

guest

Oleg saddle welcome Oleg Oleg brings

really fresh ideas right please have a

seat Oleg is from IT mo University and

he is working on very exciting new

technology blog chains and

Internet of Things right let's start

what I would like to do is now to have a

brief presentation of our arguments and

then we will have a short dialogue also

with a joining our audience the first

presentation from Eduardo Eduardo tell

us what old one is doing in terms of

waste management what kind of new

solutions you are looking at especially

to address the huge footprint that we

are having please go to the yes thank

you thank you yeah

I am very pleasant to stay here for the

opportunity of us a company to explain

why not some successful case of circular

economy consists the my presentation is

a structure in three parts the faces

will present the who we are the second

song a business case or a sighting and

reciting no sorry some example of the

good practice in waste management and at

the end we have some conclusion of

reflection for all of us at the

beginning I put this DISA slide because

we are a global company we are in more

than 21 countries and we have many

different colored clients I put this

pieces like no four soldiers we are very

big company as a multinational the idea

that I won't present here is that for

obtaining a good results in circular

economic concept or in way when a smart

city we need to consider that it's

cladding of us have different

requirements and different needs and we

need to provide for them a good solution

for his problem this is the idea at the

we - so here we divide our company in

two different business line on the ferry

structure one is in urban services we

collette and with a script we call a

clean clean and with collections also we

have some green areas maintain also we

have Internet equal treatment and also

we have a new mobility solutions this is

the different same McCulloh work

company the idea of this is that what we

can do in this part of the waste

management sector is they will run

services I also hear one of our plans

for the name is smartphone and I invite

you if you want to know more about that

you can visit in our stand when our

basket in the small city Congress and we

are integrated different technology that

all of these techniques it's on the

market we are not development of these

technologies we are we have a by

dissolute and we give this solution for

our client we use different information

technology system we have different

sensor we have different communication

software hard and so on etc why may this

is because with this platform we

optimize our service and will release

the cause and we reduce of course they a

environmental a part of our activities

here you can see different is life

different people and different

presentation of what we can do we know

exactly how is the field level of the

container for example what is the best

route for hours collecting Road all of

these activities is developed by

information and communication technology

I will of course increase our efficiency

these services this is in the human

services but the oil principle a space

for add for the Alban services is the

mobility we believe that the in the nest

future more near and in the nest two

three years the electrical vehicle is

obligatory is one of the principal

condition in the urban services I show

you I have a pleasure to do the first

vehicle electrical vehicles one moment I

put a video

we can see this being selectively

wastage

a vehicle that cares for people's health

that cares for the environment

that helps make the city friendlier

[Music]

and respects residents sleep

cutting-edge technology to answer to the

needs of the city

[Music]

the best waste collection vehicle for

cities that are one step ahead

this vehicle is working in the fashion

event here in Barcelona and I listen all

of you you want to be cities in this

ESPO in our stand you can see and you

can ask any question about this vehicle

this is the another important network

but we have another important business

idea in the company the way streaming

because the only things in collecting

system do you don't resolve the problems

while streaming of pork we have two

different lines municipal ways and

industrial way this is day trading

macular company and the we are a fortune

in the voice man as many municipal waste

because we have clear what is our target

for the news future in the European

Union half a decision that establishes a

new rate of recuperation what a target

for us for 2030 and this target is these

three ones this is most important and

one is the winter tain

25% of municipal waste to be prepared

for reducing our weapon according with

that European that of 2015 we had from

35 persons in we another target is 75%

of packaging waste to prepare for

reducing recycling the same according

with a European data 2013 we have add

from 65 and no and the last one no less

important is that landfill in no more

than 510 percent we discuss this

percentage of municipal waste down from

45% is a media that of European and

member states

ok if we want to reach this ambitious

target we need to collaborate together

public and private sector and now I put

two two examples that a companies like

that we are making a we are working and

investigating for we increase the rate

of recovering or reducing the rate for

landfill one example is here glass

recovering this is once our site is in

the north of Spain

Santander and we invest with the new

technologies optical equipment or

equipment glass recovery with this

investment and we designed the model of

the process we can increase the rate of

waste recovery material around to three

points each year in this case we

recovered around six thousand tons per

year only what one equipment that we

introduced in our process for us this is

important because it's more efficient

for us we reduce the rate for landfill

and of course we can of the give a

second life for this kind of voice in

this case glass and another more resort

project then a nice plastic toil and we

are working during the last two three

years to obtain a new second life for

the low density plastic film plastic

because at the moment there is a no good

condition to sell in the market and

normally we need to send to landfill we

work hard in pretreatment of this

process to clean this kind of plastic

with thrilled with cuts then we obtain a

piece a little piece of plastic and we

introduce in one palette prank is this

plan is in Zaragoza and this is a

demonstration plan to transfer this kind

of plastic in in this case is not result

in insult inna Green oil the name is

crumpled that we can introduce in our

vehicles of motor engines with this of

course we try to reduce the the rate of

landfill waste lot of waste go to

landfill and give another value for

these kind of words but finish my

presentation I have a red flesh about

two things that we can discuss later

one is ISA smart in smart invest in

waste remain on waste collections in our

opinion and well experiences both things

are very important because there are

many no only political

citysens does the consider that is work

in colette ways

Oh Jimmy one of part of these ideas is

enough and we are with things that we

believe that we need work in the st.

areas at the same time involved and the

second question is there any adequate

legal framework available for secure

economy target in Europe we have clear

the target but what is the best measure

to obtain this target

this is that we need to discuss all of

us something's is very important is that

we change in Europe they a legal legal

framework for two things wanted to open

market for the second raw materials this

is very important because it's very a

complicating output in a market it can

produce and the second one it introduced

a new taxes law for landfill if we don't

increase these taxes is very difficult

to attain this this a detergent and when

this I finish my presentation thank you

for the excellent presentation with the

rush of the introduction I forgot to say

actually Eduardo has 25 years of

experience in waste management and he's

responsible for the research direction

in or aside and thank you for the final

conclusions that we can go back in a

minute but let's go to Elena now and I'd

like to introduce Elena in minutes she

has started her career as an

international innovation consultant in

Europe and South America as well she was

involved in recycling and waste

valorisation projects and currently she

is a project manager at for Atika and

she's working for responsible business

action like CSR projects right and

through several actions related to

environmental sustainability and another

doctor in our panel of to Eduardo

has a PhD in environmental sciences I

would like to ask Elena as a business

membership organization what kind of

tools are you offering to your members

to accompany them on the journey for the

transition and how do you make the

business case for them

which which might be a difficult one

perhaps for business so we do the case

from the environmental side pretty fast

when we know casi todos es un placer

estar aqui y for mondo part a este panel

con expertos a con toda esta do DN c--

a-- bueno puedes gracias por la

presentación yatra home for Etica for

Atticus association empresarial en

españa de referencia ante manda

sustainability' en nuestra mission es

accompany our sector privado

en la incorporation de aspecto sociales

ambiental su divan gobierno de trabajo

la parte ambient and donde los amos

Intrado en cambio climatic oye economy a

circular como los principales aspetto de

la sustainability' que important Alison

presses an SP context o mo sin pasado

trabajando con in materia climatic on

okay professor la la primera Cynthia and

intimacy medio ambiente

and septiembre don't milk in salah el

cluster de cambio climatic o en el que

estén presenter cincuenta una grande

SEM presses Espanola z-- y empresas

Internacional a key opera en el país é

que tienen un compromiso en materia

climatic ax que tiene una strattera en

cambio climatic oh yes Tammy MSM praises

Y nuestros socios no de Mandarin la

manera de nos a mandarin ayuda vance are

hacia la integration de la economía

círculo de souza strategy airs por eso

es septiembre lands amo say el grupo de

acción de Konami a circular en el que

canta mozcon nuevon presses de certeau

reimu distintos como puede ver que am

bestow la oportunidad yell business case

de la economía circular en su Jacinto

sectors

si si an acusado no

mutant numerators came on a Tiffani

quantify con cual es el l business case

the parasite or empresarial para man

sarahfey una transición a Fiona kono

para para avanzar C and Latin satirist

esta nueva modelo de aplicación consume

okay economy a circular yo no se la

commune Co europea dijo que que el

treinta las empresa podrían are are

coasters que su pony Nastase siento

miller's intermediate routers and

wireless thomas quantify como la

oportunidad de los cuatro coma cinco

triones de dólares que la oportunidad

de la siempre son los sevens in la

movilization

watson our campus our cuáles son los

objetivos que queremos conseguir que las

olas a rom en tonneau comenta bamos yell

acompañamiento que damos a la empresa

para man's are a co madero de konami a

circular bueno initial meant a las

generación de Canosa me ento queremos

salud our lays an tender coal SL

business case para para su fist in Tosa

Torres e a company RS tambien de manera

Technica Uriah denti-cal : llaha de ruta

para vans are en este economy a circular

quali solo Rijos que supone la economía

lineal para su distintos Cetera's cual

es o las oportunidades de una

transición a co modelo de konami a

circular cuáles son los los mode ellos

circulars

disponible z-- y que hace que pueden

Integris a las estrellas

EK permiten que la empresa pueden Avanza

a este nuevo Modelo yo ultima de las

aliens al final nosotros en Adamo's es

de espacio para que se pueden Darla's

Alianza yo somos el vehículo entre

sector privado

yo sector public o hemos participate Oh

en en las Hornaday debate a de la

strategy espanol economy a circular que

esperamos que a final de a neo principio

de la noche VNA puede ser una realidad

en al que hemos puesto both a la empresa

privada y hemos pour dial o god o con el

con el ministerio de medio ambiente para

ver y cual es on realmente

los puntos más importantes que debería

tener una strategy-a-day economy a

circular según el Satori empresarial

además en go participate Oh group Oh

del trabajo de la cámara de comercio

Espanola en la que también se pretendin

Darla's pistas de las partes para las

Impreza's para manejar a fee hasta nuevo

Modelo además nosotros somos el padre

Spaniard air war Business Council for

sustainable development

okay so organic asean empresarial global

tiene la meme emission que nosotros pero

Annabelle global esta urbanization

funciona con partners con national

partners and tours pices nosotros somos

los alleged OHS en españa que muy

interesante porque our final solo que

martin de alguna manera la guia de como

las empresas de berry Onam answer a few

days her Aoyama sustainable siempre con

Liguilla de los objetivos Desiree o

sustainable como una visión

allistic Adel okay Debra ser el

desarrollo sustainable yo-yos también

estan trabajando economy a circular con

su grupo empresarial llamado factored es

en el que pretendin tambien Darla's

pistas Alice M presses Internacional MS

importantes sobre como a bands are no en

este Modelo que parece sencillo che la

justifications evident a Clara pero que

inter-are las estrellas empresarial nos

tan in mediate Oh me me Ravi dividend a

myself Ramos tambien trabajamos in

America latina programa con el que se

llama el banco inter americano de Cerio

que se llaman CA sorry no lapse que

pretend a ser you laboratorio de

sustainability' para companion Tomlin

Alison presses key opera in America

latina e este año

estamos en mexico tambien

trabajando Intimus de economía circular

con Empress's con embrace our Latinas

que también es otro de nuestra Honda's

alliances so more firm antes del part o

por una economía circular l compromiso

eros agendas economic OC sociales que es

un past okay lands o el el ministerio de

v agriculture a medio ambiente para

donald SEO choten bill vent a que

comprar met a a toad Rosa gente z--

economic owes Yoshi a less en españa

para avanzar hacia hacia una cara mia'

circular he final meant a when I most

need Ola la suerte they staring a los

Congress horse place in Finlandia and

Congress okay to go Wharf circular

economy forum que tu lugar who neogaf

will premier a congresso global okay you

know a todo el mundo no toll of paisa

sevilla como siento despises train mill

asistentes yo el primer punto de

encuentro global sobre la economía

circular además estaremos en in

colombia también en el sefa que es el

el encuentro de las américas economía

circular en el que también pretend a

ser el primer punto de encuentro lr he

owned sobre Temasek oh no Meah circular

intone safe way no volviendo realmente

koalas on nuestra Sara mientras yo a las

olas alliances puede ser a Mientus no

chiamo contra see Diaz conocimiento

apoyo técnico s agin en toda todo lo

que se está siendo Anabel global in

logo tambien in corporal economy a

circular en en una misión mucho más a

listicle el desarrollo sustainable nunca

SE conseguir a los zetas deSario

sustainable a see no somos capaz de

hacer una uso mess officiant a de los

recursos Yared el el el siglo no de de

de la materia prima que estamos utilize

ando

dijo mañana tendremos una session en

este Minto congresso en el que nuestra

ZM praises del clustered a cameo

climatic o si reunir on yo ammos a

present our UN documento a KCI mal cameo

climatic Oh a la ciudad de la acción de

las Impreza's en las que obviamente la

economía circular esta presente por su

bin culo claro con el cameo climatic Oh

Buono alguna Vlasic fiona's que tiene un

impacto de reto the sorry el impacto de

la sustainability' climatic Adela

cidades tienen que ver con la mobile

Adad con como esta connect Sione's

infrastructure amass Austin nibblers la

energía rain / blaze oh yeah I meant a

no podium falter la Nova Fiona financier

film para para proyectos que tengan que

ver con la sustainability ambiental

tanto de ser Punto East a climatic Oh

como el punto Vistal economy a circular

e sin duda conseguir que los consume

Edoras y los ciudadanos a MPF inna tener

estilo de vida mucho más sustainable

'as caper mitten tambien que la siempre

en la oferta

una de Manos a Perdue una de Amanda

Alison presses para que estas tambien

integra mo de los de negocio mucho mas

Austin a blurs ways creo que esta aqui

the Guardium intervention muchas gracias

very much on time thank you thank you

for sharing with us the power of

alliances that you are raising awareness

I'm building slowly some partnerships

and well I think to know more they might

come to the session and now without

losing any time I would like to call

Jordi to the stand

Jordi has started his professional

career as a researcher on eco design and

sustainability of built environment at

the institute of environmental science

and technology akita in short and in

2009 he's an entrepreneur himself he

co-founded the ACO innovation agency

called in edit it's a spin-off of web a

research park he's also a doctor he has

a PhD on environmental sciences and he

has a lot of tools in his back to

accompany us in this transition what are

they George they tell us thank you very

much with you and thank you for for the

invitation

welcome everyone welcome to arts Ilona I

kind of hear that person is a sunny City

even though you're spending the morning

darkroom

I hope you guys have some time to enjoy

a soda city

well I will explain you the equation

journey the conversion journalism

methodologies and an approach that we

have developed for working with

companies for being partners of

companies in their way towards

equalization towards circularity to

making it more friendly I will explain

the example of the the case with it with

said the car manufacturer many of you

may have perceived that the automotive

sector is shifting its value proposition

the business models are changing and

that car manufacturers sometimes they

look like or they operate like other

other sectors like energy companies like

utilities like multimedia companies or

logistics data companies or they even

offering us services that are financial

or insurance services No why is this

happening why is this change taking

place so the automotive sector like in

many other sectors of the economy is

living a deep process of change and

there are many drivers for that some

might be that there's a new generation

of consumers that don't wanna don't have

the priority to own a vehicle but to

make use of it so they have a different

approach to mobility this there is a

production system deeply heavily

dependent on the use of scarce and

expensive raw materials so this these

companies in this sector as I said as in

many others need to rethink the way they

operate how do they make business how do

they align the interest of their

business of their new clients and the

planet as well an eco innovation is a

good framework for doing so after having

worked with several companies with this

approach we have identified some

patterns that echo innovative companies

share one of this is the systemic vision

because no ativ companies see the

value proposition like part of an hour

wider ecosystem of products and services

that serve the needs of their different

stakeholders they innovate with a future

vision so from the feature so they

understand their current situation but

they also able to understand what the

world they want to be in the future

which are the desirable future scenarios

and to use innovation as a path towards

this future scenario videos design

design as a strategy not as a makeup

design as a tool for offering new

products new services that fulfill the

needs of the clients and with a user

center approach so that delivering the

best possible experience to the to the

clients and so in last year in 2016 we

we made that a joint team we set with

green editin and said to work to develop

an action plan towards equal innovation

taking into account all these concepts

and say it has also some internal

challenges so the boss wagon group is

moving towards the offering of mobility

services car sharing car pulling out

autonomous driving so are some concepts

that are being developed and implemented

and also that they have some internal

and ambitious targets such as reducing

the environmental footprint of the

company by 50 percent in 2025 so mixing

all these external concepts and internal

challenges we implemented the economic

journal which which consists in four

steps each of them containing a

multidisciplinary multi-departmental

worship the first step of this

methodology which I will I won't go into

in detail but the first step is knowing

oneself so which is the current strategy

of the company which are the business

models that they use which are the

processes the activities that support

those business models we did the map of

the processes and we started thinking on

the of the user experience map so which

were the needs that are being fulfilled

by the current business model

and which are not once knowing our

starting point we started thinking the

next step on what's what's out there

so which are the forces of change that

will influence the the company which you

have the current competitors and future

competitors we will defeat the

competitive competitors with other car

manufacturers or maybe Google Apple will

step into this sector and offering

mobility services how can a traditional

camera factor compete with other actors

in the scene and after having defined

several desirable future scenarios for

the company together with different

departments different people different

backgrounds we started prototyping those

future scenarios so testing with doing a

fast prototyping testing how would it

look like how would it work with the

barriers which are the opportunities so

and putting it together in the same

session with all the representatives of

different departments so aligning the

vision of the different of departments I

haven't said that yet has 14,000 direct

employees so aligning the vision of

14,000 people is not easy as you can

imagine the third step is the road map

so we know where we are we know where we

do we want to be in the future so which

are the steps we are the actions we are

the activities that need to be

implemented in order to achieve this

vision in the future all these visions

all these actions were collected were

classified depending on whether they

interact with more operational level

product design project or service design

or more strategic value proposition

business model alliances and they were

prior priority prioritized and finally

the last step the later phase is to wrap

up and to translate all these ideas all

these activities these actions into an

action plan so we ended with an action

plan with a document with 30 projects

that are vital that are crucial for the

company to make their feature visioning

true to make it real we collaborated

with more than 25 people in the company

with seven departments and we say that

is the robot for resilience and

competitiveness of said ok 20 20 seconds

left the first the first project of this

roadmap is already being implemented

that is what we say the Second Life

where we are laying the foundations of a

systematic process of reusing functional

components of bakers at their in their

Elif life so can we recover functional

components and reuse them to new cars or

to new sectors to other sectors for

other products Arbonne furniture for

instance and how can we develop

alliances how can we have to redesign

our products or services of the future

and that's it said has started working

in this direction they are not alone in

this road there are many other companies

thinking or seeing that if they want to

be competitive in the future if they

want to continue doing business in the

future they have to align their

interests with the interests of the

consumers with the interests of the

planet and that equal innovation is one

framework one more framework to do so

thank you very much eco-design ACO

innovations certainly a good leverage

for us and it's not only for big car

companies also BMW or the German

companies are hooking into these kind of

business models but also for small

entrepreneurs for startups and we

collaborate with Jodi's team on that for

using this methodology to create new

startups circular economy startups so I

think it's serving different sizes of

companies but how about regions I think

we

should also hear from Edouard the about

their experience from Riga Dada one

region in Catalonia one County and let

me introduce a Edward he's actually

managing director of either cut

Sandra which is the Association for

rural development of Sancho Catalunya he

has 20 years of experience in

application of rural development

policies specifically in the areas of

business labor market tourism and trade

so we are listening your experience how

you're applying this concept at the

regional level thank you

I'm sorry good morning Munya I'm I'm

adore I'm from I will explain that our

project is is visit in in a rural area

so our main mantra is try to promote the

circular economy not in the in the in

the big cities this our our our image

site to promote the economy the circular

economy at the rural area Colette

Vergara and I will explain my mantra and

our mantra our team mantra is related on

that we should we should think global

and act locally so I for sure it is

possible to to apply so it's a pilot

project that I will introduce my

presentation will will have my vision

about a smart and sustainable

development later I will explain the

project and finally the next steps of it

okay so from my point of view we are

basic to thing and to to executives like

father like feather but they often could

create cathedrals on the desert I mean

the baton of process it doesn't works it

has to be implemented in its top-down

strategy

so our

is that on the ruler areas should be on

the agenda of the of the circular

economy and in the agenda of of the

different project of IOT of different

things that the the big city so we think

that Catalonia Europe are in danger of

of live again to be the part of this

intelligence gender so when we talk

about with we talk about our local

action our region we you should see that

we have an ecosystem it's a different

ecosystem from the big cities but we

talk about ecosystems ok so we talk

about competitiveness we talk about a

smart rural development we should talk

talk about these systems so our

experience is visit at the rural area

you see on the left the map of Catalonia

where there are different printed

regions

you see our region is Catalonia Central

is the nicest region of Catalonia of

course so you I invite you to to come

and and and to see and we we try we we

have some

Rural Development Programme colored

leader this program is around Europe and

is visit on to promote the investment

the best of the the enterprise so we buy

grants we have runs we give grants to

enterprise to invest in equipment to

invest in promote new newest scenarios

ok to promote the enterprise so what we

we thought is that we this gran should

have should internalize more adult value

how we talk about economical circular

economy

ok so we we thought that we

it was necessary to booth a green and

economic economy and circular strategy

so we should that it should be good not

or not only to reduce the the cost of

the the enterprise

it should be the best scale when we talk

about circular economy the ruler areas

are the best labs in order to implement

this strategy so we we try it and we

start with this project but if we talk

about circular economy we have learned

about a very nice and powerful as

casuistic from my colleagues on the

panel but at the rural area if I ask to

you how to implement the circular

economy two years ago we were the first

guys in Catalonia the first local action

group the first that we started at the

rural area so how to apply well we have

excellent professionals at the Catalan

administration's so we we went to the

general de Catalunya and and we went to

and we asked them how to apply we learn

about the foundation of course LM

MacArthur Foundation we try to connect

with them and set you are rural area

where you are not our-our-our it's it's

not possible to collaborate and in any

way we we start the project our project

has different axes different actions

first we have have to take all the

companies that has some grants some

implication with with our organization

and we have talked to talk about the

circular economy we have down coaching

we have promote eco eco design we have

don't unlock a lot of focus group

companies we have work with a little

group of companies and they are very

very good result results when we we talk

about the toolkit everyone in the in the

room I'm sure but about that they will

think about the magnificent tool of

Ellen MacArthur Foundation but at the

rural area there is no methodology there

wasn't any methodology so we started

with some colleagues with to create a

toolkit specifically from the rural

areas to work with companies at the

rural areas think that in our regional

seventy-five thousand inhabitants so you

should take care about our enterprise

dimensions so we create a toolkit so we

have started with this toolkit that is

unique it doesn't exist

another took it as our toolkit and of

course we have worked with other lines

we have worked with green territory does

it means we have we are trying to

promote a green cluster we are trying

we have promote landscape marks but we

have also to promote a counter

Premiership of course in the rural areas

are the best place in the in the in the

in our in the territory how to promote

to implement a counterproductive

initiatives and later we have also

promote this unique I mean in Catalonia

I don't know right now but some project

in industrial symbiosis project at the

rural area why not in the rural area we

should apply industrial symbiosis it's a

different scale from the big cities but

we are working right now with a project

about industrial symbiosis so next steps

of our project first of all fundraising

is obvious that this project should have

more from raising public and private

fundraising so we are managing right now

some potential PPP in order to promote

more investment to align the circular

economy not in the big city

I mean in the rural development programs

to increase our portfolio it doesn't

means that to give more bushes more to

take more tech partners and and of

course improve our target and later on

our aim is try to promote this project

to the different rural areas in

Catalonia in Spain in Europe because if

our aim is as I said on the beginning if

the rural areas are the best place one

of the best place or a good place in

order to implement circular economy and

should be on the agenda of of this topic

and this is what we are working and it

and it is what we are what we are

working with a collaborative way with

the administration with the private

enterprise and why not as I said we will

share all these results to to everybody

in order to improve this at the rural

areas thank you very much sharing

neither leader region I think I'm slowly

learning how to pronounce better Ghana

Ghana and we will definitely visit

actually I would like to invite you to

our project I'm very impressed with the

toolkit you just mentioned the switch

med program which is working with north

african rural areas for a corner ship i

think we are already a fan of yours

through this presentation thank you so

much and now we are going to hear a

little bit from the future from Oleg

Oleg is going to talk about the

blockchain and Internet of Things

approach as I just mentioned I was

looking into some material also about

blockchain and I read that HPR Harvard

Business Review was mentioning

blockchain as a big disrupter to create

new foundations for an economic and

social systems

this is actually what we want with the

circular economy so how can they get

married and now we have a better future

please tell us but let me introduce Oleg

to you

Oleg Sado actually coming from San

Petersburg Russia I TMO University his

main areas of research and development

are free and open space software so for

a Defined networks IOT cloud platforms

and kantam computing as well he has

participated of course in many

scientific and commercial projects so

looking forward to hear your project now

okay actually it's my first presentation

in this event I actually I'm a technical

guy from recession development

University volt and my presentation may

look slightly out of steps in comparison

to two and other presentations but don't

be afraid I will try not include many

technical details in my speech and I

think it would be a good reason to

discuss them in silence okay many

letters and short words about it our

story began

one years ago when we participated in a

large European project biotope about

implementing of some infrastructure

solutions for smart cities related to

implemented of implementing of Internet

of Things technology in smart cities

it's a large project with many

participators like universities like

large companies for example BMW and four

pilot regions in different European

countries one of this country is Russia

unfortunately Russia is not European

Union member now but we collaborate with

this project I can only some project

from our Ministry of Science and

education our part of this project

related to smart waste management

actually we must implement some complete

system including a lot of hardware

including a lot of software actually a

lot of information about general

situation about waste management about

[Music]

conciliation in Russia and

[Music]

in in Russia and in some Petersburg

consideration with the waste management

is not ideal and we may we trying to fix

this this problem in the current state

of development we making sound

development work about creating of some

software and hardware tools mostly for

for modeling of smart smart waste

management process we must make a proof

of concept okay

in our project we try to make some

platform for for communication for

coordination of fork of of different

players of this game its citizens

it's a municipality it's waste

management operators and of course it's

recyclers

so just a brief Luke due to complete

[Music]

prototype of the system we can see some

service domain with waste management

operators with small garbage beings with

a lot of services connected to the

messengers and finally we can see a

small box in right down corner in which

we can see smart contracts in a

blockchain

a many words game in in in in short

words so just what is it blockchain and

why would we try to use them in our

project actually the most well-known

implementation of blockchain technology

is the cryptocurrency

for example bitcoins that generally

blockchain is is a general ledger in

which we may place some records

corresponding to some things for example

it's it's maybe some transaction

financial transaction for so-called

cryptocurrency

you may have one account and another

account and move some amount of

cryptocurrencies from one amount to

another

the very important thing this record

records can't be changed after including

to this general ledger more than its its

records may be very different for

example it's may be so-called smart

contracts it's in some projects actually

it's it's real programs which includes

only the business logic without a side

effects which may implement a very

different business logic

[Music]

behavior so and this some hypothetical

large picture which may be implemented

for harmonization of current waste

management operations of course we not

implement a full picture only only a lot

of details but I think some discussion

with the practitioners in in governance

in business may help to us to for

selecting of correct directions of our

research so the main advantage of

current watch-chain smart context and

cryptocurrencies technologies is a

possibility of using of some lingua

franca for business logic solutions in

different parts of our infrastructure

for example we may place so-called smart

contracts in inside a devices inside the

Internet of Things and these Internet of

Things may directly communicate with

services with the citizens with a very

low cost for for transaction and we may

create our own instruments actually we

may create our own cryptocurrencies for

different goals for example for

investing too

creating and buying of smart garbage

bins with a different functionality

which bought by municipality or

condominium and after that

for example our smart garbage bin may

calculate rate of concrete waste portion

and after that get some cryptocurrency

for pain of that and after the

delivering to recycler

if you place a correct portion of waste

in your back recycler may return a lot

of cryptocurrency money to you all for

example make some penalty if you place

wrong sort of waste in your back

actually bye-bye this simple machinery

we may make some structure with smaller

waist and mount with a high quality for

recycling of this this process so and

actually very many actors of real waste

management game may be included to do

this this picture like in this slide

thank you very much for sharing with us

news of blockchains and cryptocurrency

so it's obviously another leverage for

us to get even more efficient we might

like to ask Eduardo whether these kind

of technologies can be applied very soon

or how do we like to take them up but

use your garbage bin might get more

smarter than yourself very soon and we

have a lot of examples I think here but

it's not really

some future story we already have a lot

of research going on even Ellen

MacArthur Foundation has a publication

about the use of vlog chain technologies

so it's important to follow up what's

happening thank you for your

presentation for sharing with us thank

you also to you all for listening what

we can do I think now in a couple of

minutes that we are left if you have any

burning questions you can raise your

hand and we yes please I think there is

one in the very front could we have a

microphone here

please introduce yourself and a short

question the questions here maybe you

can stand up

yes I'm Darrin casa from electronic we

use it's for luck it's for luck or like

I think the ability it's the it's a key

for synchro economy

my question is how you can ensure that

we use it's done before recycle that I

think it's also a challenge for us and

sure we use is always done before

recycling it's a three r's in your

platform are you assessing or you

measure the value of the objects are

there and you can decide when take sense

to just go to another user and use it

again for some years or it takes sense

to co2 recycling because the raw

materials are upper than value it has

its difference between the value of the

asset and the raw materials it contains

very shortly how do you factor in reuse

strategy in your scheme so actually so

my tail provokes that question it's it's

depends because because we may create a

different configuration for example of

small garbage bins yes in which we may

include different sensors which may

measure weight all faced and we may have

some RFID card sensor or we may have

some optical recognition system for

reading of QR codes and as a consequence

we may create some systems which may

make more or less exact exact

controlling process in some cases it's

not need for example when we place in

our garbage bin in some Park yes and we

we need only the measure of level

effaced we must control most of

parameters so it can be added to the

system setup say thank you I'm seeing

that we are already about six minutes of

our given time you in extra time but if

you like to join a discussion or if you

want to share more tools maybe we can

take one more question or comment

otherwise I would like to turn our panel

and just ask for one project idea based

on your experience from the rural side

oh I am NOT saying I have a question

okay different from yes my name is Jeff

and pops I'm from Austria from the

selenium in Graz and I'm working on Food

and Agriculture sciences so my question

is if anybody of viewers somebody in the

auditorium knows good solutions like for

example organic waste is a huge problem

because there's so much tonnage and it's

a would be a good resource for as a

fertilizer but in many cases the

separated is a huge issue like because

customers don't really know what is

organic waste and what can be done with

it and is there any solution for this

eternal problem

okay we are responding Castellanos at

swine I think it's okay I was stunted

soluciones but I proceeded the material

organic on el problema siempre Selmy

Moselle Kosti nosotros tenemos una de

sel composting an evil composter Knievel

local Casey a famous and asuna rallies

yellow tienen que ellos mismos porque no

e Mercado Lobo con la materia organic ax

k proceed a low recede OHS case L Seguin

cuenta por ciento de lo que estamos con

los Candela doors

Tammy lowest amo recoup Ronda en dos

formas como vo gas por una parte yara lo

que estamos ESO teniendo productos

intermedius para tenemos produce

productos intermedius que sirve and a

materias Prima second areas para otros

processes el problema en este momento es

lo que decía mi presentation no i

reglas Clara's de Mercado para incentive

our que bien lanty de Paula Conte

privado Poddar a poor Emmer kado sus

productos el problema de serie who star

tecnológica meant a solution male

pero economica mente es lo que tenemos

que mostrar lo s próximos an ela

material organic thank you very much for

all your inputs I'm sorry that there is

not much of time to discuss but I invite

you here and also in the breaks to

discuss with our leaders the change

makers the action takers for the

circular economy thank you very much

thank you