# Title: Advancing the Health and Wellbeing of People in Cities

Subject: Health

* Society

Abstract:

Cities play an essential role in shaping human health. Indeed, there is evidence to support positive connections between the physical environment and people’s wellbeing. Still, the risks of adverse impacts such as air pollution, congested traffic and equity issues in terms of access to healthcare are poorly developed. What are the basic services to be provided in a digital society? What kind of tools are needed to improve urban health?

Speakers:

#### Davide Malmusi

#### Christine Kendrick

#### Hoffman Lantum

#### Krishnamurthy Gowda

#### Luis Suárez Zarcos

Conference:

so good afternoon I think of as

video to start yes okay I was so good

afternoon everyone and thank you for

being here in this session I think that

all in this Congress is very important

but this session is especially important

because why we make our city smart if

it's not to improve the health and

well-being of the population so we think

that I think that this session is

especially relevant and you have the we

are lucky to have speakers from four

different continents representing also

the global North and a global South they

will touch different topics all of them

are of big impact on health and

well-being the topic of work environment

topic of air quality healthcare social

integration so I hope it will be an

interesting session in Versailles I work

in Barcelona in Barcelona in the Verona

City Hall and with which several we work

with several organization in plenty of

projects and realities developing smart

smart initiatives for royal being for

instance telemedicine health promotion

and protection using mobile apps in air

quality monitoring and we also

collaborate with fear at the Barcelona

in the in an yearly event which is

called LTE healthier health with an

exhibition about where patient named

where patients and health system meets

that is showing up in Barcelona for this

year it has been the first time and next

year for the second time it's about

having patients and stakeholders

experiencing the future of healthcare so

we are also happy to collaborate in this

project and now I just start to give the

floor of to to the participants in the

in this session so first of all

Christine Kendrick from the city of

Portland Christine the first to you

good afternoon everyone my name is

christine kendrick from city of portland

oregon in the u.s. i work for the city

and the Bureau of planning and

sustainability this afternoon I'm going

to tell you about a project we're

working on where we are evaluating

low-cost air quality sensors so why are

quality sensors the map on this slide is

showing you a picture of the city

boundaries of Portland and that green

dot is the one and only air quality

monitoring station that's run by our

state agency in the whole of the city

boundaries so we know that our urban

roadsides are under sampled we also know

that health risk and transportation

related potion is higher near our roads

so our residents have been asking for

this data they want to understand what's

happening how can we what are we gonna

do about these uneven exposures to air

pollution but in order to incorporate

public health more into our

decision-making maybe it's land-use

planning or other types of code for

buildings we need more data so we've

been looking at the use of low cost air

quality sensors as a way to help

increase that spatial resolution that

spatial density of measurements this is

very expensive to build out a full

regulatory monitoring station and this

is a picture from one of our very first

simple pilots where we did see

interferences from temperature and

relative humidity cross sensitivities

with other pollutants which was to be

expected with the technology that these

lower cost devices are using our initial

pilot also highlighted issues with data

recovery so how well we were doing and

storing the data sending out over

cellular modem and we would lose service

or not have service in certain areas and

then also that sampling Inlet design

still matters even with these lower-cost

devices especially for particles so we

can't just put the hole on the side of

the box so we have over the past year

had a great testing opportunity that has

been funded by a National Institute of

Standards and Technology replicable

smart cities technology grant

this grant allowed us to first do a

little bit more of a thorough sensor

rufio so we looked at about 45 different

sensors or devices that were combining

sensors and what we were looking for in

this initial review is we wanted devices

that at least had some type of

evaluation data set prior to coming to

our project in our tests we also needed

devices that were ready to be deployed

outside so they had weatherized housing

we didn't want to be in the business as

the city of building our own boxes or

having to put out cabinets so we needed

these devices to be ready to go and to

be installed on the poll so the three

sensors that came to the top of our list

at our review and are the focus of this

project is the Sun severe ramp which is

a company from Pittsburgh Pennsylvania

APIs sensor cell is the local organ

based company and then also the

University of Chicago Argonne National

Laboratory array of things node this

node is different in that it didn't have

a lot of the evaluation data for the air

quality but it had so much research and

investment into the CPU the computer

processing unit behind the device and

that was also an important piece so our

project is designed that we argot we are

doing lab testing then field deployments

and then roadside deployment so in the

lab we're partnering with Portland State

University pictured here on the on their

on your left is a picture of the chamber

that they recently got so this is really

great we can stick a whole sensor device

inside of that chamber we can expose it

to known concentrations of gasses and

particles that we're comparing that

signal you can build really good

calibration models and you can also

change the temperature and relative

humidity and do in mixtures of

pollutants so we're really trying to

understand what those issues are are

there things that need to be changed in

the calibration model or the device to

help address those issues for the

roadside deployment we are deploying

them out into a part of Portland called

East Portland and this intersection

specifically has what we call our clear

station which stands for curves that I

lab for emissions and air quality

research so this station has reference

instruments housed in a traffic signal

cabinet it's not as

that state regulatory monitoring station

because it's not you know temperature

controlled and not calibrated as often

but it gives us a nice check again

against a reference instrument and these

devices out on the roadway so the

primary bulk of the work that's been

done so far has actually been the

testing at the Oregon Department of

Environmental Quality field station so

this is a background field site that

Green Dot from the map on the second

slide this is that station so this is

the top deck with all their instruments

and we are allowed to go out and deploy

our sensors and so what we do the

sensors from the companies so what we do

and we're deploying three at a time we

want to understand not only how the

sensors compared to the reference

instruments but also how well they

compare to each other

so before we start to put them out all

over the city we need to know that

they're telling the same story in order

to understand differences across

neighborhoods so I'm going to show you a

little bit of preliminary data that we

have here and then go into talk about

lessons learned and where our next steps

where we're heading with this project

these three graphs show the APUs sensor

cell and no sensors compared to the DEQ

reference instrument the reference

instrument is on the horizontal axis the

sensors are on the y-axis so we can see

from this month of data that we

collected all three sensors are tracking

pretty well with the reference

instrument this is good the next step is

also to then analyze the sensor aversive

sensor looks pretty good we're at least

having the same range of concentrations

for each sensor for each enno sensor and

then this is preliminary data from the

deployment at the DEQ station with the

ramp son severe a device and on this

graph you have ozone on the vertical

axis and time and date on the x-axis so

what you're seeing here is really just

these initial look at our first two week

and a half of data and at the very

beginning the first day and a half the

blue line is the sensor the orange line

is the reference instrument and you can

see that they don't track very well at

all and this shows you that there is

a really important warmup period for

these sensors so really the first 24 to

48 hours a day that really isn't going

to be useful when you're using small

electrochemical sensors that are inside

these devices so after that set-up time

we had a unfortunate local forest fire

event obviously was not planned or

expected and we had very high levels of

ozone and nitrogen oxides come into the

Portland area so the sensor did catch

that event and you can see pretty good

agreement in this initial check but what

the fortunately this meant for the time

line of our project is that we really

had to have the sensors out there for

longer than expected because we are

trying to build a calibration model so

this is great we really have this

extreme high end of the data but we

weren't really getting the typical lower

constant ambient concentrations that we

also see throughout the year so those

mean meant more time added on to this

data collection and this stage so whit

and I and I as you noticed I didn't have

any data from the Argonne National

Laboratory and University of Chicago

array of things nodes we haven't gotten

them yet so this is kind of our first

lesson learned that manufacturing delays

are going to happen with these types of

devices it's not your typical

infrastructure piece that you're buying

for the city so different components are

made by different companies or

organizations and so delays are going to

happen I'm happy to say that I I'm close

to having a shipping tracking number for

those and we'll be getting them in about

a month so next steps will be doing the

lab testing with those devices I think

also thinking about that these are

non-traditional infrastructure pieces

for cities is that they also don't

really know what kind of maintenance

they're gonna need so once we put them

and onto the traffic signal poles and

light poles this isn't your typical

piece of equipment that maybe should

have lasted to her 22 maybe even 50

years there's me a lot more maintenance

and different types of asset management

that we've had to work with our

procurement office and our Portland

Bureau of Transportation on to figure

out also with that that we had to

unexpectedly take about a six-month

piece of this past year to work on

building a new citywide comprehensive

policy for attachments to our polls to

our vertical imager infrastructure so

this was unexpected very quickly that's

it's ramped up there's a lot of demand

for our the city's infrastructure in the

public right-of-way

so not only sensors that the city wants

to install sensors that private

companies want to install small cell

sites we have to think about autonomous

vehicles coming so there's a lot of

demands for those polls and how do we

manage that resource best that is in the

public right-of-way it's a public

resource so that was also an unexpected

piece into this sensor validation study

so next steps what we're focusing on

we're pulling the permits right now for

the road side deployments of the APIs

sensor cell and the sense of year ramp

those will be going up over the next

month as long as we have no snow and ice

and our crews are able to put their time

into installing these devices and once

we have that data coming in from the

road side what we have planned for

January in February it's actually some

small community focused work groups and

specifically meeting with certain panels

of equity workgroups from some of our

transportation nonprofits and what we

want to focus on there is sharing the

data that we're clutching from the road

side what are the reactions to this is

the graph that we're using helpful or is

this really confusing and I can't

understand it so what are those data

communication methods that we need and

asked also what what other data do you

need what's missing so really trying to

focus on that and I think an important

piece for this type of work is that how

do we communicate what a short-term air

quality measurement means in terms of my

health and my risk and compare that to

an annual standard or a lifetime

standard and that's going to be really

important to actually get to the point

where this increased data and monitoring

data is actually useful for influencing

Public Health making communities feel

like they know more about their air and

can take action on it or not so that's

all I have for today looking forward to

questions and discussion with a diverse

panel and different topics today

and that's my email contact information

feel free to email with any questions

and thank you smart cities Expo World

Congress city of Portland for being here

today thanks thank you

okay so while hoffman lanthum from

Makeup unique technologies Nairobi is

preparing the slides just to remind you

that for that we will collect questions

and make question at the end there is

the you to remind you that is this a

scam boat utility I think it's in the

app of the the of the Congress you can

make questions using the the a scam the

a scam boat or you also can vote on

questions that have been posed by other

persons here in the in the room and at

the end we will see the questions that

are being made the most popular one will

be posed to the audience and also in the

case of off man as of managed to leave

to to the airport before the end of the

session maybe when he finishes if you

have some quick burning questions for

him you can just go to the microphones

that are in this in this part of the

room and and we make the questions

before passing to the next speaker of

man well thanks thanks David and really

appreciate it hi everyone

delighted to be here when I got the

invitation to speak at the smart cities

conference being a doctor and very

health centric I was like okay what am I

going to talk about but then I realized

the story that my public health

professor taught me said health care is

about the home what happens in the

neighborhood determines yourself your

sense of self-esteem what happens in

your living room determines your

awareness what happens in your kitchen

depends determines your nutrition

studies and what happens in the bedroom

determines the number of children you

would have to feed so you know it sounds

like okay so I'm at home here and I'd so

really excited to be here now last year

we warned the

south let's see the South global South

award for technology in healthcare and

so it's quite an honor could not be here

so delighted to be to be back here and

and we're working with a couple of

fantastic companies to make sure that

we're getting technology to where it's

needed the most and I chose to talk

about the promise of a health

hope hype hope you know or hustle now if

a health has to meet his mandate of

saving health then it must uphold the

universal rights to quality care and

medicines now a lot of progress has

happened over the years and this is the

2017 Gartner hype cycle picture I'm not

sure if you're familiar with the Gardner

cycle hype cycle but it really looks at

the hype of technology in different

sectors and this is a summary child of

the hype cycle in health care now you

can see that pretty much the you know

cloud mobile technology you know is the

mainstay in healthcare and there's been

a lot of progress Internet of Things is

becoming big in healthcare and that is

the hype right now there is a huge drive

to incorporate artificial intelligence

to help address some of the pressing

health needs now my analysis would draw

on the experience of our company

developing technologies to help us

address some of the pressing issues and

hopefully paint a picture of hype hope

or hustle now the jury's out it made my

job easy The Wall Street Journal this

past week published a report saying the

type of virtual medicine maybe is not

really happening and so there is a lot

of room you know for improvement I tend

to agree with the author of this article

that there is a lot of work that needs

to be done primarily because as we have

developed

systems and incorporated technology in

healthcare we have drilled down the lane

of specialties so you have a lot of

technology for heart surgery

neurosurgery but if we really look at it

from the perspective of society and

healthcare there are lots of gaps which

I'll try to point out now I'm going to

tell you a little story that really

influenced how we think about technology

as a company this is a picture of me as

a doctor I'm seeing this patient in

Kenya in one of the rural hospitals long

story short get that arrow clock two

years we had deployed an electronic

medical record system in this county and

I'm doing support supervision I get

there the nurse is seeing a baby the

nurse puts in a data system malaria but

the child was there with the mother the

grandmother and the father of the child

as a practitioner I knew there was

something wrong I examined the baby the

baby had pneumonia and meningitis so

artificial intelligence in the resource

limited setting is important and it is

very expensive to do however that story

doesn't end there that was 8 o clock in

the morning 8:15 did mother leaves with

the baby and goes 15 kilometers down the

road and she looks for the medicine that

I prescribed couldn't find it at 11 o

clock she goes to another city close by

she couldn't find it she finds the

medicine around 1 o'clock in the

afternoon she could not afford it she

takes a car back to the village gets $40

and flies and drives right back to the

hospital and the child gets the medicine

for pneumonia and meningitis at 8 o

clock p.m. and that's a six-month-old

baby now if you're a city you can think

about it from the perspective of the

carbon footprint the mobility the

accidents the risks the cost of

healthcare all of that is valid for my

health information perspective we are

failing mothers so we decided as a

company to adopt a strategy whereby we

would have technologies that are trying

to address different components of the

healthcare system now we have one

technology which is branded zt4 which we

recognized and we're working with why

away technologies to use it as an

information and here are P system for

hospitals and health systems

the idea being

really transmitting information for

decision-making around healthcare

management telemedicine if you will

we've developed another system which

I'll talk about which is about helping

the health care workers identify risks

before they happen and giving them a

convenient way to update health records

and then the third solution branded I

secure is a solution which we designed

for the patient to help them make

decisions so what happened to that model

can be averted now we have deployed

xiri in many hospitals in in Kenya and I

would say but right now we'll probably

can say one of the most used you know in

terms of market penetration in the

African market you know we were quite

out there we did a telemedicine solution

with quawi technologies where we are

looking at transmitting health data from

remote villages to central locations to

assist with diagnosis and and really

reduce the mobility of patients with

chronic conditions that work is work in

progress so don't have a lot reportin

but what i can say is that it is they

use it is that kind of technology and I

can deployment that is really making a

difference in people's lives

we have done work in vaccine management

which I'll show you this is a success

story which I'd like to report on now we

developed this platform group which

stands for way out of paper thinking

about it from an environmental

perspective to say how can we predict

events before they happen

now we develop this whole system whereby

a healthcare worker can update a

patient's record within less than 53

seconds you select the patient you

select the vaccine antigen you update

the records and the patient's a record

of the EC's becomes updated we piloted

it in seven sites and we had 1536 babies

part of this work and we are able to

predict which child would be on schedule

with their vaccine schedule

which child would be delayed catch up

which one who progressed slowly but

ultimately get their vaccines and which

households are likely to default on

their vaccines now looking at the

seasonality from this study over 75% of

kids that we looked at in the Kenya in

this study had delayed for vaccines that

may not mean much to some of you but it

is a big big risk that cities and

countries are facing because of delayed

access to vaccines we went further and

working with the team at SAS we've been

able to now do run chart analysis well

real-time when the data is coming to our

database we can profile the child in the

household and say which and identify

which risk group they are in and trigger

signals this this is showing signals

that are triggered from a database

real-time that can send messages to a

household to avert you know delays now

if we look at some of the charts and and

I'm going to keep it very basic here

you'd see like the one labeled number

one the highest peak that is a household

where a child has been delayed for 150

days to receive polio vaccine

pneumococcal vaccine and dipped and

Diptera Haemophilus and hepatitis

vaccine if you now start deploying these

kinds of technologies and city levels

there is a huge opportunity to identify

Sentinel sites whereby before disease

outbreaks happen we can pinpoint and

intervene this kind of technology can be

used for operate addiction control for

mental health disease control in big

cities and avert you know the spread of

some of those are epidemics quickly for

sustainability purposes we have

optimized a platform such that with a

basic phone now you can report an update

your data and your healthcare record is

updated and that way the analysis

becomes real-time lastly this is the

challenge we are facing at least in the

global south where you have one health

facility for a thousand house

there is that is a major challenge as

we're thinking about series in the big

cities even Nairobi and most of the

cities in Africa this is the scenario

we've got to do something about it the

health implications are huge in the

rural setting where the urgency is more

pronounced

you have serious stock-outs of medicines

because and so we need to figure out how

can we use technology to avert these

kinds of situations and that is what we

are doing where we are building social

innovation hubs putting technology in

hubs in localities they are not clinics

they are not pharmacies but it's a place

where you can use technology to report

symptoms order your medicines and get

remote diagnosis that is how we're

trying to reduce not only the carbon

footprint but making sure that

households are as close to health care

as possible using technology the

technology platform that we've developed

to do this is called I secured is

downloadable on the Android and Apple

Store and right now I can buy medicines

for my mother in Kenya and it would get

delivered to her within the next 48

hours that is how we are trying to

reduce the cost and make sure healthcare

available from the social innovation

hubs and we're trying to use some of

this data to understand mobility

patterns whereby if you buy a medicine

and we understand your mobility it fits

it could fit into a bill into a big data

warehouse and allow us to forecast

diseases based on prescription habits

and this is an example of one of the

hubs where we are collecting data so in

a nutshell there is a lot of hype

there's a lot of hope and there's a lot

of hustle we need to improve access to

health care right now access to

technologies happening only in the

hospitals we need to take healthcare

more into homes payment system

innovation is huge we are so dependent

on insurance companies to pay for

healthcare and it's driving cost and

voice of the consumer is still

underrepresented in the healthcare

sector and access to medical information

is still a big constraint so there is a

lot of room for improvement in

healthcare and I believe the hype is

there but there is still the hustle of

making healthcare affordable to save

lives in

big cities as well as in the rural areas

thank you very much for your attention

thank you very much

very inspiring as I said that as he has

to leave if you have some short question

now it's the moment because he can be

that till the end of the session if you

want just to raise your hand or go to

the microphones and if not a big amount

of time okay

so thank you thank you very much very

inspiring so now it's the moment for the

mr. Krishnamurti Gowda from Bengaluru in

India Bangalore okay so this year I

think

respected delegates and parchments I'm

really proud to make a presentation in

this beautiful city Barcelona being a

Connecticut from Bangalore IT hub of the

Orient Karnataka India as a delegate

from the government of Karnataka led by

a great visionary our honourable chief

minister mr. Sood Ramaiya in providing

social justice to all and working for

the development of the state he also

strives hard to provide integrated

health especially to the poor for below

poverty line and to those above Porter

line that is middle cross people in the

state the biggest challenge for the

government of Karnataka is the growing

population in cities these challenges

manifest itself in providing pure

drinking water sanitation civil age and

health amenities our unique Corporation

KFC is providing through its projects

for infrastructure development like what

supply sewage roads human empowerment

etc which is the assistance of World

Bank and the Asian Development Bank's

KFC infrastructure investments for these

works are around 50 billion and for this

marketing machine KFC is the nodal

agency by spending over sixty billion in

five years for the world development of

small cities in Karnataka in advancing

the health and well-being of people in

cities of karateka the government of

Karnataka has taken several incitive and

schemes which I would like to make a

presentation unknown

human wellbeing means access to security

physical social economic and healthy

food clean water ability to live in a

healthy environment a human Bill

well-being also includes some basic

human rights such as food water shelter

and Health and Safety a port mobility is

also possible with education

opportunities healthy well-fed

socialized children tend to do better in

education but all but all do not have

access to quality health care nutritious

food and environment of clean air and

water thus first step towards achieving

well-being is simple and clear that is

access to basic human rights such as

food shelter clean water and health the

UN conference on sustainable development

resulted in a document titled the future

we want world leaders committed to

migrate from the Millennium Development

Goals which focused on addressing major

gaps in human development to sustainable

development goals the hostages are

universal for all nations which have 17

sustainable development goals has seen

the diagram next

the name of fewest disease major end

poverty and hunger ensued LT lives

inclusive equitable quality education

gender equality water and sanitation for

all reliable sustainable energy for all

economic growth and productive

employment etc Karnataka moves from MDGs

to s disease Karnataka India's eighth

largest city in terms of geographical

area home to 69 million people density

of populous in horizon from 276 per

square kilometre in 2001 two to three

thousand one percent square meter in

2011 this is almost sixteen percent of

increase has made significant progress

in providing the health status of the

people since the drafting of its first

state integrated policy in 2004 cannot

act as a pilot state the start of the SS

finning is a very big important scheme a

healthy insurance program a health

insurance program that provided

insurance covered to 22 million farmers

for an animal premium of just one dollar

per year this scheme has resulted in

increased utilization of health services

and reduce out-of-pocket experience

together with the central state

government also structured our sby

national health insurance scheme that

currently covers 35 million families

living below poverty line and also that

what Pia registry scheme also provides

super speciality services to the

families below poverty line methods are

currently being taken by the current of

karateka to cover it all schemes

initially under one implementing agency

with the aim of covering all schemes

under the umbrella of universal health

care institute Karnataka's efforts

towards us see through the nationís

through the National Health Mission

chronica provides primary health care to

one liberal populations throughout the

state assisted by the Government of

India schemes Karnataka provides

secondary health care to targeted

populations across the state through the

government schemes directed the ATL and

BTL populations karateka covers more

than 90% of its population in tertiary

care institute more of health care

delivery all skills providing tertiary

care and some providing secondary care

are implemented by Karnataka in

assurance mode as opposed to insurance

mode followed by some states the scheme

targeted at BPL families was commended

by the World Bank in a study 2014 which

found a reduction of up to 64 percent in

out-of-pocket expenses by beneficiaries

Karnataka was a key player at the

Government of India level to showcase

the assurance model which provides for

lower administrative costs leading to

increases money available for

beneficiary

instead use existing health insurance a

certain scheme Shin karateka the major

schemes yes is eight million dollars are

covered and that's just we need three

point four million integers are covered

watch pay our registry scheme

it covers eleven point three million

households and Raju our occupier which

covers three point four Millions jota's

engineer scheme it covers 0.6 female 6

million families then RSP white this

scheme provides six point four unions

families thus under skin the senior

citizen RS be a senior citizens age of

60 and above BPL card words are covered

the G okay assumes the senior citizens

affair for a cover of one lakh fifty

thousand rupees per family treatment is

totally free and cashless are selected

empanelled health facilities up to

maximum chorus perineum includes

investigations implants food medicine

for entire duration for admission and

the important scheme that our team on

three Swanton a hurry ski this is

regarding all road all road traffic

accidents victims irrespective of BPL

apo status or nationality immediate

instant medical treatment for the

victims of road accidents during the

golden hour

48 hours cashless treatment for the

victims with a maximum amount of rupees

24,000 per episode hundred eight hundred

Borel plane for the ambulance

Indira's or exogenous dependent family

members of the farmers who have

committed suits is also very important

scheme a national scheme that provides

financial origin of rupees 1.5 lakh per

family per year treatment is cashless

and covers patients with pre-existing

diseases

then this what learning plan scheme

children with the severe diff diff Ness

children in the age of in the easy group

of eight months to six years in the

category of disability due to hearing

impairment okay

then another important is into

mainstream healthcare is this ayurvedic

yoga naturopathy Unani and Siddha are

traditional systems which are 5,000

years old traditions in India our

government established all these centers

of excellence for highest medical

practices and create an enabling

environment for traditional

practitioners as well as explore into

these two more inclusive some of the

institute proposed under the sponsor

dismission

multi facility hospital s+ trauma

centers is what it is population of

government hospitals is much more cities

largely the impact all the all this help

exists Metheny made a tremendous impact

that is the life expectancy has gone up

what used to be sixty two point three

years for powermail and six three point

nine years for female in 2001 and 2005

is now sixty seven point three years for

male and sixty nine point six years for

female in 2011 and 15 to an extent the

population growth SAV has been contained

protected what is being provided woman

empowerment led to increase working

woman in force working purpose increases

drastically especially skilled labor

that is with a special emphasis on

tecna's technology workforce

all these factors are resulted in the

emergence in emergence of Bangalore as

the IT capital of India with worldwide

recognition thank you

[Applause]

Thank You mr. Gowda then we will have

time for a question after after the last

presentation mites if you can come back

to seat Benny then in in the end we will

have the questions from all the public

now it's mr. Luis Suarez from FCC Madrid

thank you very much thank you to the

organization and congratulations for

this fantastic Congress this time this

is the time to switch to Spanish the

funny thing is that you only will lose

the jokes because you have all in

English in the presentation okay

buenas tardes a todos los asistentes

muchas gracias a la organización del

congreso a la una buena por la fantastic

organization y en esto occasion no esta

contribution esta esta este congreso

esta basada en lo que nosotros avenido

prep you pondo desde hace mucho tiempo

que es como podemos contribute a la

salud de las comunidades cape estamos

servicios otra vez de lugar a nuestros

propios trabajadores en si sentido antes

de iniciar la posición quiero

situazione el marco de que es f SS a ya

que nos dedica Mo's f ed si es una un

grupo con más de siena nose concrete

Ament a ciento Diez Y siete a nose al

servicio primero de la sociedad Espanola

a despues del resto del mundo

Marta CN Mar Desiree nosed experiencia

en los de torres de construcción de

servicios hermanos de un Piazza de

servicios de agua fundamental meant a

Cana internationalization creciente idea

do alcanza hasta tren de Cinco Price's

yo or una capacidad de innovation

tecnológica que nos Vienna Dada pour

lost in cuenta cuatro mil profesionales

que trabaja mozcon or goo yo al servicio

de nuestra organization nuestro

compromiso fundamental con la sociedad

de Zeeuw las comunidades sabes que

estamos servicios es el desarrollo

Urbano sustainable importantto la

protección media ambiental incluyen doe

dentro de la protección media ambiental

el tema hae nas esta ocupado aqui es

decir la salud de los ciudadanos KN

definitive a somos los que Ave Atomos en

las ciudades a la salut c seguridad de

nuestros empleados y la salut c

seguridad de las familias los vecinos de

las comunidades a las que Presta mo

servicios como JD cho veremos pressed

ando servicios en cuatro areas un event

allah's por una parte l area principal

que es el área de servicios media

ambient allah's donde tenemos la

limpieza B area a la recogida de basura

la limpieza de Fe COC locales la Jardin

area publica el tratamiento Trece clase

recuperación en su casa Berta Darrow's

de receive AHS urbanos EDA recei dos

industriales una segunda Rama de nuestra

empresa son los servicios de agua en a

dead acondo nose desde el siglo integral

del agua desde la l su mini Stroh a las

comunidades hasta el tratamiento de agua

y la pone le posterior Rasta clase o

DeCecco de la misma n condiciones que

nada en el medio ambiente

finalmente la vida de construcción que

podemos DVD en dos en dos partes de

Stinton apart a low-cost russia own

infrastructure asleep wrote repartee l

su mini Stroh de el material seneschal

para la construcción en la la

fabricación mini-stroke a es el cement

Oh

concrete Amenti en el área que soy

responsable de recursos ooh manos que

son los servicios media ambient ah lays

como di soda knows di camos a say Santa

V da days fundamentals

kaydessa ro da Mo's el Mar de Cinco min

municipio ZN españa y en tres a pices

del mundo en trios en tres continental

distintos en corriendo America del Norte

Africa Europa desde la tecnología desde

los advances tecnológico Padres very

few era hora cuando so guys los camiones

elector COEs que tenemos en servicio

aqui en la ciudad de barcelona desde la

tecnología desde la gestion que nos da

de mar de siena nosed experiencia

nuestra contribution LVN a star or bono

Vienna da de otra vez de nuestra

preoccupation initial pour koalas la

seguridad y la salud de nuestra plan T

Edina Stroh's opera Rio's en este

sentido decir que para situation Oso

tros tenemos UN no vent a Cinco por

ciento de plant illa que Sun blue colas

decir trabajadores o / re Osuna mental

meant a Manuel's estamos hablando de

trabajos con exigency a physica y de

trabajo que estan summit Eidos a gravis

inclemency 'as meteorological no lo dijo

antes pero la planta de la que estamos

hablando en el área de servicios media

ambiental desde Cuarenta dos mil

empleados aproximadamente hombres y

mujeres que de serra da Mo's nuestro

trabajo en tres a pisces distintos de

los cuales tray in tamil'

aproximadamente lost ahmo's de cera

Londo en Espana case elk or a de nuestra

actividad

a donde Seon Desiro lado los programme's

que a continuation voy a poner voy con

partir con todo vosotros en primer lugar

de donde parte todo esto hoy un

principio ethically tenemos que de

volver a las comunidades lo que las

comunidades no sexing a la sociedad

Apsaras que estamos servicios lo que es

la sociedad as no sexism SI principio

etic o y de próxima das que NOS plant a

ahmo's hace muchos años en FSS a en el

caso concrete okay no so Kupa parte de

la vas a day consider our

l VN estar la salud de nuestro trabaja

Dora's Alvo essencial para nuestra

organization a no solamente debido a

nuestra preocupación por los propios

trabajadores a porsche familias AI de

trois do evident Ament a como todos

sabemos una a Segura me ento de la

continued EDA's del negocio una Segura

me n toda la productive EDA's y de la

competitive EDA's en una actividad de

serra da Mo's fundamental meant a mark

odda por un t a logo so she al

Permanente no centenarian ingu no de los

programas image uno de los process o's

puestos en marcha c noon consents oprah

vo tanto con los principales

interlocutors sociales como pour con los

principal s interlocutors Laboral

syndicalist es SNC odd para la puesta in

march a parle éxito de estos programas

cantar con la collaboration cantar con

el acuerdo previo de estas interlocutors

que son authentico socios para la puesta

en marcha de estos programas es no

solamente el éxito de la organización

lo que está en juego see no más allá

del XE toda la organización es el

compliment o de una de las metas que no

se Mo's marcado desde hace muchos años

en FSSA que es tener en todo momento una

contribution responsible a nuestras

comunidades pour over Yendo les de

servicios y siendo un interlocutor

indispensable para asegurar la

sustainability' 'he's medio ambiental y

la sustainability' scioscia party endo

de supreme isa party endo de Samarco

intend emos que el lanzamiento de

campaña says Ladas el de programas

punto a lays no era suficiente sino que

necesitamos dotar knows de un marco

systemic o de una política systemic ax

chain OCC era desarrollar todas aquellas

acciones con una dirección

un sentido por el portal motivo nosotros

elegy Mo's integral nostro sistema de

- man no sistema de gestion de la salud

y seguridad they'll be any star in

definitive a demonstrable Antilia otra

vez del Modelo denominator purine or de

empresas aloo Doblin a me me gusta mess

hablar de bienestar Laboral no solamente

la empresa la que debe ser saludable es

el Vienna star Laboral de nuestros plan

teyla's de nuestra gente el que tenemos

que buscar la certification y el

programa establecido en el marco de

empresas salud habla de saroja el la

salud la seguridad yell bien estar en

definitive además tows empleados como

una un canto de acciones Devidas a

Durante's RK el centro de trabajo se

convierte en un espacio de

sustainability' z-- y de bienestar para

toda la planta para todos los

trabajadores pero más allá de nuestros

trabajadores tenemos que fuera de la ley

she unprofessional fuera de la nación

labral ah el intorno personal familiar

de sus trabajadores por ESO no se hace

doe mejor are no sólo la salut de

nuestros trabajadores sino también la

salud y LVN estar de las comunidades a

las que estamos servicios son tres pesos

muy sense illios ESO stress Paso's los

podemos seguir a Ramos que dar alguna

algunos números los podemos he fraud en

estas en cuenta cuatro programas de

vados acabo n distant --is unidades de

negocio en los propio servicios

centrales

hasta siete mills st entos trabajadores

que si an benefic a doe

de los mention ADO's programas voy a

poner tres ejemplos en primer lugar como

empezamos con la salud de nuestros

propios trabajadores

a bitch okay Sarah Taba de unas

actividad A's muy excelente fisica mint

a una de las cosas que descubrimos es la

in Mensa Ellen vents impact okay tiene

en las Naciones musculoskeletal --is la

l at Avira's Desiree on nuestros M play

hasta un banty siete por ciento de

impact o en el absentees mala oral

comenzamos programa sendest in toes

puntos de Callen Tammy ento previo

talent a bientot Deportivo antes de

empezar el trabajo junto con le o

empezamos for aramas de team-building de

los equipos de trabajo que tenia Desiree

dr.seuss trabajo CNN distintos sona's de

la ciudad y el final del dia tambien St

Rami entos novice Quesada real asado la

actividad el resultado acid own dais 10

so del treinta por ciento en el

absentees mola Borel como consecuencia

de elecciones musculoskeletal casa el

segundo impact okay Mo's credo 10 eres

más allá del mundo la hora de más

allá del enter no professional eye a

betos yone ductus kmo square Edo era de

car de nuestra plan TAC del enter no de

nuestra plant ideas hemos Desiro lado

campaña specific as contra el alcohol

contra las drogas contol table akise mo

pero además de combate ear los habit

O's in correctos a mos def Ament are una

cultura emos fomented una cultura de la

salud Camby ando lo sabe tows a lament

Ezio's y desarrollo y ando a programas

de deux Casio nutritional para nuestra

plant illa no solamente en el aspecto

fisico también es importante las

heterocyclic oye emotional portal motivo

amor de cera lado y wall meant a

programas para evitar el astrays para

enseñar mayan Funes y para indefinite

eva intent re-implement are LVN estar

emotional de nuestra plant ideas pero

más allá de nuestra plan ta de nuestra

gente de y sus familias esta la sociedad

para la que estamos Ribisi las

comunidades a algunos de los problemas

seda cerulean message a tentando dar una

respuesta problemas sociales como la

mobile idad y la el desarrollo de

energía alternate Eva's O'Day Movida

dad sustainable a alternativa

actual hemos Desiro lado programas en

varias du da days

haciendo reciclaje también y yo y esto

a Draper QT doe en las comunidades a las

que estamos servicios indefinite Eva a

con esto terminó lo más importante

como de si el principio es que lo

estamos haciendo juntos muchas gracias

so thank you very much for the four

speakers dr. lentil mines left as I said

earlier he had to leave and now it's

time for from four questions I don't

know if we dare you have used a scam

boat or okay there are two questions

okay one one question is about to what

extent is air pollution the top health

challenge for cities maybe Christine

could say something about that and then

there is a more general question on how

can we improve the health and well-being

of everyone

equally and they also share this

question because in Barcelona we are we

are keeping this health equity objective

very very much in mind so when we are

performing this kind of program maybe

also this could be well a question for

both mr. Gowda and mr. Suarez because

and I think that it's already in their

work because the universal health care

access as the topic of expanding the

coverage to all the population and also

the your program is also as you said is

already focused on your population which

is mainly blue-collar workers but you do

you ensure that within your population

everybody is benefiting men and women

different categories different have you

in the evaluation of your program are

you looking at these kind of things if

if we really most of the company workers

are benefiting or some are benefitting

more than others

so and and also just I would like to add

to to Christine one more topic which is

the your set and now in Germany in

February we will do these groups to

share the data but do you plan next to

publish this data online for instance so

I would is the plan of getting this data

to work for the to be for the population

to be aware of the situation of

pollution so I'll answer that second

question first yeah we're straight

forward so we having the community focus

workgroups the goal is also to publish

papers about it once that article is

published and share that so that way the

data can results can get out to a wider

audience as well so lots of different

opportunities to talk about that once

the results are in for the first

question to what extent is air quality

at top health priority for cities I

think that's hard to answer and there's

not a blanket yes it's ranked at this

number across all cities because it's

gonna depend on your location it's also

gonna depend on what pollutant that

you're talking about in the US carbon

monoxide is really not a priority

pollutant that would be very different

in developing countries in organs

specifically Portland we have issues

with diesel particulate matter and

that's because our state's regulatory

policies are behind that of California

and Washington

so those older vehicles actually get

kind of imported into our state so

really specific issues so it just

depends on what pollutant and what city

may be what scale even some

neighborhoods may have certain air

quality issues while others wouldn't in

your city okay

there's another man here's another

microphone that if you want to start the

how did you with this with this health

coverage expansion programs how you're

reaching all the different sector of the

population

how are you ensuring that everybody

benefits equally from these programs

sure if you ever take on that especially

in Karnataka our state in India measures

are taken by uniting various schemes by

emitted by the central government

instead go in under one scheme universal

health care under this scheme our

government is providing especially for

the bigger Portland people and even for

above Portland it is America's people up

to ninety percent of the people are

covered under this universal health care

in this scheme our government and all

the best facilities are given by our

government by different insurances and

SSP knee many schemes a kobold under one

universal health care in this Kim

ninety percent of the poor and Balam

because people are getting health

benefits

oh come on this man Z okay thanks for

your question

yes of course I think that our our topic

is also on health for example you have a

couple of electric truck outside if you

are concerned with the atmosphere that

we our lungs are breathing everyday in

the cities I think that it's something

that contributes roughly to our wellness

the the possibility the chance to have

completely electric vehicles to make the

collection and the other question that

you made me was about the Equality

brawlers

we have programs from gender equality

diversity and inclusion from eight nine

years ago and all our programs include a

shared Commission with unions and with

labor liberal delegates in order to

ensure that we face different situation

when we are treating with women or men

and they need different they have

different needs so I don't know if I am

answering your question it was a quite

different one but but before making

another question myself I just want to

make sure that there's no more question

for the participants yes so please we

can continue later and I there is there

are these microphones or or we can share

this one it's it's something it's here

you mean let me just check this work

[Music]

una pregunta and for seniors arcos es

una cosa tener un programa otra cosa que

lo hacen so my questions around adoption

and change management um how was he able

to get you know he had such a successful

program but how was he able to get the

workers to actually comply with that yes

that's the other question is also for

the thing for the same person which is

about how do you defend investing in

health for employees when the gainer

perhaps perhaps not so miserable you

made an example of measure of impact but

and so my additional question was about

measuring the impact of your of your

programs

two things are okay you can have a main

impact as you show 30% of reductionistic

sickness absence but how do you evaluate

the impact for the impact of health

promotion programs in different sectors

of your population which I was saying

men and women and for instance

construction workers and cleaning

workers and so on and an additional

thing that I put the question about is

these healthy habits require also time

resources some time ago not economic

resources motivation and sometimes also

the working condition and employment

condition and the salaries are also

influencing on that so how do you manage

that you're not just promoting what's

good for health but you're also making

for workers the condition easier yours

in the work life and outside the work

life to make these to get these healthy

habits would be so there are three or

four questions for you but maybe

they're about the Yami's de las personas

cardiovascular principio del templo

consejo de tomar fruta pero igual

Celerio Mercanti para comprar estamos

estamos a Desiree Ando initiative as

como poner una vez a la semana meses con

fruta confessed 'as de fruta para que

los trabajadores de la pueden llevar

gratis a su casa

estamos viendo tiempo de recursos pero

yo creo que de bois decir a non or a

miss compañeros ya la gente de fe de se

que el mejor recurso de todos que

tenemos es el entusiasmo

de la propias n take a collab hora en en

esto en la puesta Marcia de estos

programas

nuevos querida hacer siempre elimin ando

el espíritu competitive o yq am beyond

o lo por el espíritu cooperative oh

poor exemplo cuando esto

sorry ol programme's para earrin busy al

trabajo no estamos benefic ando aqui em

mama CNBC al trabajo sino que entra

todos los que van en vicia trabajar

hemos tratado yo son fin de semana en

una instalación de multi-event hora que

tenemos en en la costa rica race yeah he

go todos los casos intend hemos que el

entusiasmo de nuestra gente que en cola

hora en la puesta Modesto's pour

nuestros Nostrum on dos intermedius kstn

Kolob hora en estos programas es el

mejor valor gettin so thing that times

up

we have several different topics I hope

it has been interesting for you and

you'll get in got insights that you can

bring home for your own work at home and

thanks again to the speakers for the

time and the patience answering goes to

the questions and thank you very much