



Replicate
Final conference



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SAN SEBASTIÁN
Ekonomia Bultzatzeko Zinegotzinoa
Concejalía de Impulso Económico

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 REPLICATE
RENAISSANCE OF PLACES
WITH INNOVATIVE CITIZENSHIP
AND TECHNOLOGY

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Financing the Smart City: Replicable models and emerging questions

Professor Mike Yearworth, University of Exeter Business School

BLOCK II: KEYS FOR SCALE UP AND REPLICATION OF SMART SOLUTIONS



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Hello, my name is Professor Mike Yearworth from the University of Exeter Business School and I am leading the strategic planning and business models work package of the REPLICATE project.

Financing the Smart City

Evidence for replicable models and emerging questions

Three Key Questions:

1. What financial and business models are available to municipalities to achieve the necessary flow of capital investment to intervention beneficiaries and intervention and infrastructure providers
2. What strategic capabilities are required by municipalities in their city ecosystem networks to exploit these models?
3. How might we measure these strategic capabilities and offer approaches for enhancing their performance?

The map shows a network of cities across Europe. Bristol (United Kingdom), Florence (Italy), and Donostia/San Sebastián (Spain) are marked as Lighthouse cities with red dashed circles. Essen (Germany), Lausanne (Switzerland), and Nîmèges (France) are marked as Follower cities with blue dashed circles. Dotted lines connect the Lighthouse cities, indicating a network or replication path.

..... Lighthouse cities
..... Follower cities

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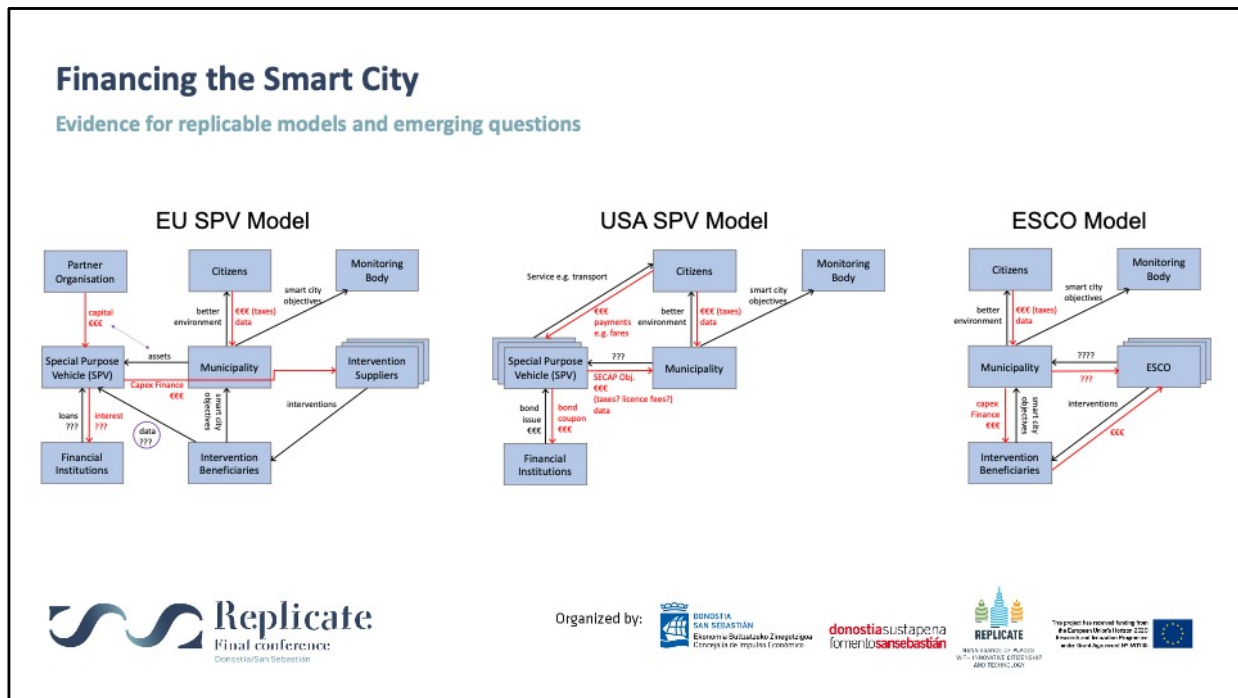
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One of the challenges set out by the European Innovation Partnership on Smart Cities and Communities required Lighthouse projects like REPLICATE to find a means of bridging the gap between the investment required to meet climate change targets and ready sources of capital. The instrumental means to achieve this was the notion of the replicable business model. Hence one of the main objectives of the REPLICATE project has focussed on developing an understanding of the relationship between strategic planning and the replicability of business models in the financing of the smart city. I can best summarise this work through 3 key questions ...

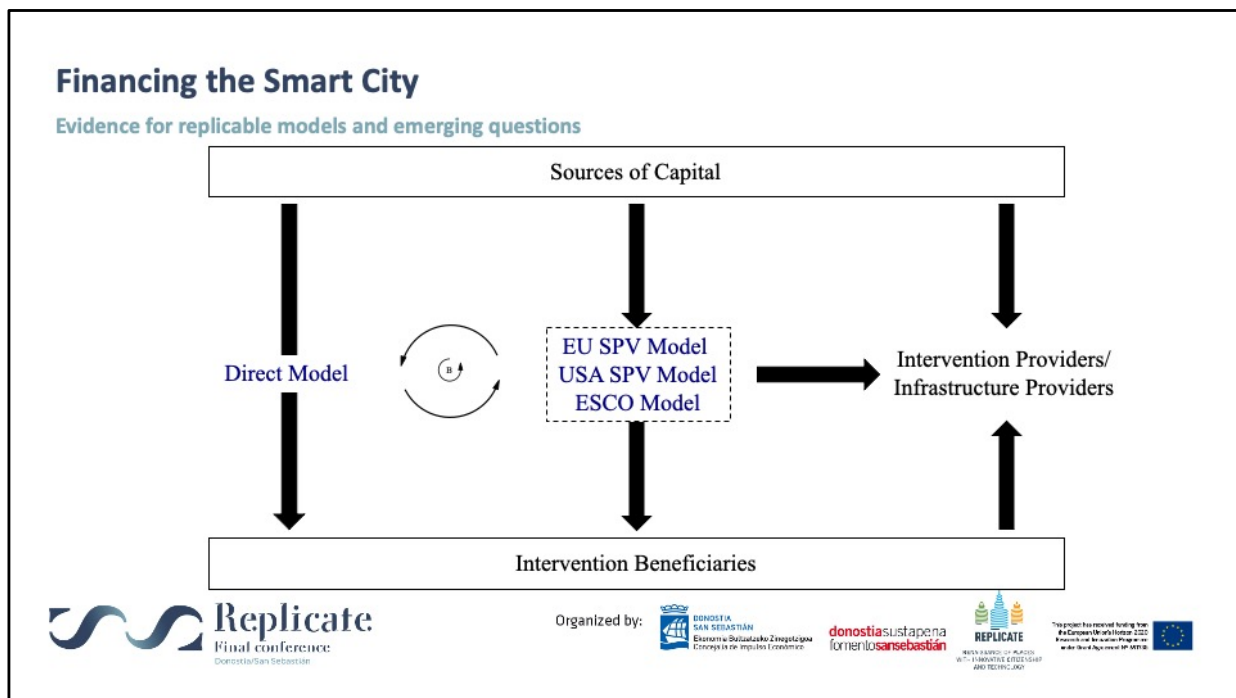
First – what financial and business models are available to municipalities to achieve the necessary flow of capital investment to intervention beneficiaries and intervention and infrastructure providers?

Secondly – what strategic capabilities are required by municipalities to leverage their city ecosystem networks to exploit these models?

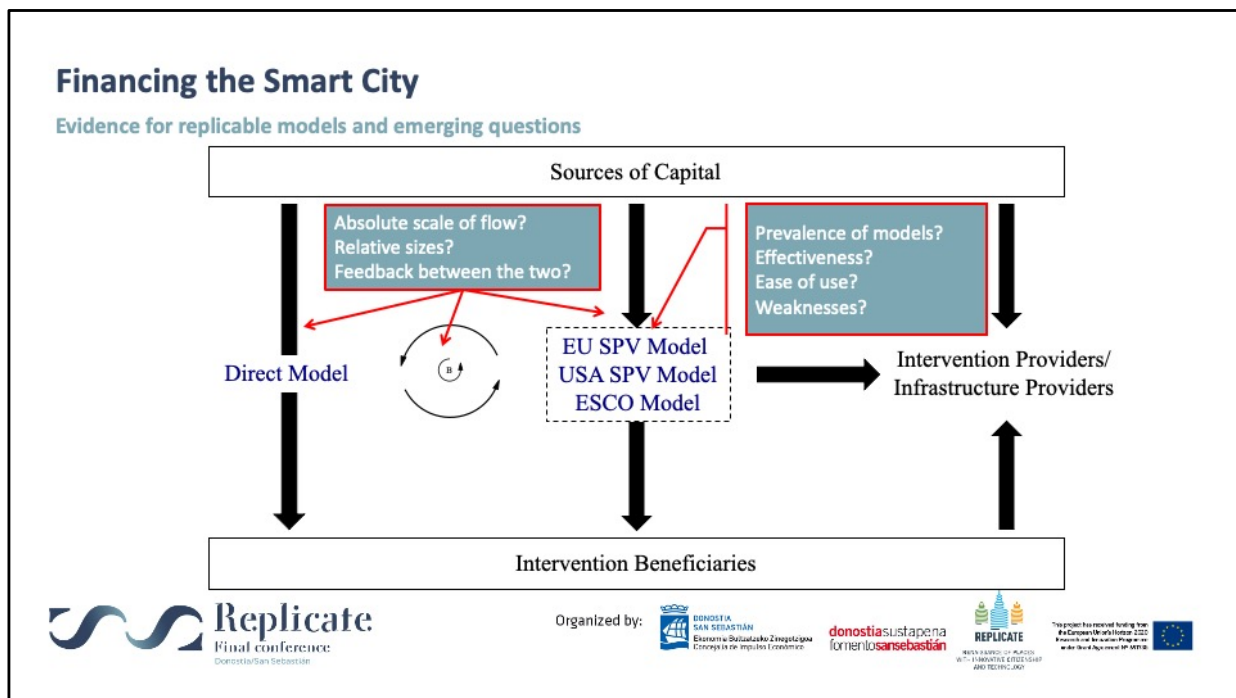
And Thirdly – How might we measure these strategic capabilities and offer approaches for enhancing their performance? Whilst all these questions are pertinent, I am focusing here on the first question



Value Creation Ecosystem modelling carried out in the project to analyse and develop scale-up plans (which is presented later in this Block) was adapted to capture a limited set of generic configurations of municipalities, funding bodies, intervention suppliers, intervention beneficiaries, citizens, financial institutions and special purpose vehicles, or municipal co-owned joint ventures. 8 generic models were identified from this work. Data were then compiled from all the REPLICATE cities in a series of 3 rounds of data collection throughout 2020, both to refine and clarify the structure of the VCE models, but also to understand their likely use by municipalities over the next 10 years. By the end of the third round of analysis the 8 models had been narrowed down to just 3, plus some variations, that are likely to play a significant role in channelling the Billions of Euros that will be required to fund interventions over the next 10 years or so. These three are the European Special Purpose Vehicle Model, the USA SPV Model, and the ESCO Model. This is in addition to the comparatively trivial Direct Model, which captures the situation where intervention beneficiaries and providers raise their own finance independent of the actions of the municipality.



The scale of capital investment required for cities to meet their targets is vast. Estimates of the capital investments required by cities in energy and mobility initiatives alone indicate that for cities of similar population size to those represented in the REPLICATE project it is Billions of Euros. It is therefore clear that a considerable burden will be placed on these so called ‘leading contender’ models to provide the requisite *value engineering* for a Municipality to raise the necessary investment to achieve its climate change targets. They have some heavy financial lifting to do. The schematic shown here just represents flows of capital via these main models. There is plenty of capital available looking for green investment opportunities, the challenge for municipalities across Europe is getting these models instantiated and the capital flowing. Whilst these models represent immediate ways forward for securing access to the capital investment that cities require, and can be implemented today, they also come with some degree of risk. Also, the findings I am presenting here should be interpreted in the context of rapidly shifting discussions about “green new deals” and the ongoing effects of the Covid-19 pandemic and recovery plans.



Investigating the replicability of business models from the point of view of the empirical evidence from the REPLICATE project, where we see various uses of the EU SPV model and plans to establish new SPVs, inevitably raises questions. Perhaps the most important of these to pursue are –

First; the extent to which the EU SPV Model, the ESCO Model and the USA SPV model are currently being used by municipalities across Europe to channel finance and the speed with which new ESCOs and SPVs are coming into existence?

Second, how effective are they and how easily can they be used?

And third, do they show any significant weaknesses? For example, there have been two recent failures of the ESCO model in the UK. Finally, we also need to have good data about the relative sizes of the financial flows through the direct model and the leading contender models and the possible effects of feedback between the two. These emerging research questions need addressing urgently so that they maintain their policy relevance.



REPLICATE
Thank You

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Thank you for listening. I would now like to hand over to the next speaker.