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## Frugal Social Sustainable Casablanca Smart City: new concept to promote socio economic growth and equity in emerging countries



Casablanca was recently selected, with Kansas City USA, by IEEE Smart City Initiative to engage as IEEE Core Smart Cities. The two cities were selected from more than 15 applicants as the cities that provided the most compelling evidence they are well positioned to utilize the resources offered through the IEEE Smart Cities Initiative and by demonstrating plans to invest human and financial capital into their project. The social frugal smart city concept we are adopting in Casablanca puts citizens at the center of the transformation process, creating a public-private-people partnership where citizens are actors in and builders of their smart city. It aims to reconcile citizens with their « City » and society making them feel that they count in « the city transformation process». It is a frugal approach based on the use of existing or new implemented infrastructure including ubiquitous devices, such as smartphones, to develop IT driven innovation cycle and e-services that track and answer citizens economic cultural, social and ecological needs. This participatory oriented social innovation approach will allow, step by step, to build a set of interconnected pilot projects and sites to set up gradually a sustainable smart city collaborative innovation ecosystem creating at the end a social sustainable economy which turns societal and economic challenges into a business opportunities.

### Short Bio:

**Dr. Aawatif HAYAR** received, with honors, as the First Moroccan, the degree of “Agrégation Génie Electrique” from Ecole Normale Supérieure de Cachan in 1992. She received the “Diplôme d’Etudes

Approfondies" in Signal processing Image and Communications and the degree of Engineer in Telecommunications Systems and Networks from ENSEEIHT de Toulouse in 1997. She received with honors the Ph.D. degree in Signal Processing and Telecommunications from Institut National Polytechnique in Toulouse in 2001. She was research and teaching associate at EURECOM's Mobile Communication Department from 2001 to 2010 in Sophia Antipolis-France. Aawatif Hayar has an HDR (Habilitation à Diriger la Recherche) from University Sud Toulon Var from France on Cognitive Wideband Wireless Systems on 2010 and an HDR on Green Télécommunication from University Hassan II Casablanca on 2013. She created in 2010 with the support of University Hassan II Casablanca the Research Centre GreenTIC. She is currently with this R&D Organization (Morocco) as General Secretary and expert in cognitive green ICT field and Smart Cities. She has also joined in 2011 the engineering school ENSEM at the University Hassan II Casablanca in Morocco where she is in charge of wireless communication cursus and leading a young researchers team for the development of an integrated wireless/wired networks based supervision platform for smart grids. She is also collaborating with Mundiapolis University Casablanca to set-up a cursus on mobile applications and advanced telecommunication networks topics. Aawatif Hayar is also member of Casablanca "Avant-garde" City think-tank. She is co-initiator since 2013 of e-madina initiative which aims at developing and promoting new Sustainable Social Smart city model for Morocco. Her research interests includes fields such as cognitive green communications systems, UWB systems, **smart grids, smart cities, ICT for social eco-friendly smart socio-economic development**. Aawatif Hayar was a Guest Editor of Elsevier Phycom Journal Special issue on Cognitive Radio Algorithms and System Design in 2009 and General Co-chair of Crowncom2010 (France) dedicated to cognitive radio systems and IW2GN2011 (First Green IT Day in Morocco with MNC Cluster) dedicated to wireless green systems. She was co-organizer of GDR-ISIS Cognitive Radio workshop in France in 2011. She is also IEEE DLT Chair for EMEA region since 2014. Aawatif Hayar was also General co-chair of ICT 2013 Conference (Morocco), Awards Chair for ICUWB2014 conference and Technical Program Committee co-chair for Next-Gwin Workshop in 2014 (France) where she gave the first talk on Sustainable Social Smart City Concept for emerging countries. She is also expert at the European Commission level for cognitive and UWB systems. Aawatif Hayar received with one of her PhD students the "best student paper" award at CogArt2010 and has a patent in cognitive radio field on "Process for sensing vacant bands over the spectrum bandwidth and apparatus for performing the same based on sub space and distributions analysis". She was also selected by the prestigious African Innovation Foundation as one of the top ten innovative African womens in 2015. Aawatif Hayar is currently leading or involved in a couple of R&D projects with CNRST, Lydec, GIZ and Heinrich Böll Stiftung Foundation on Social Smart grids and Smart Home Living Labs. She is also developing and promoting with Prof. Serge Miranda, from University of Nice Sophia Antipolis in France, the MASLOW (Mobiquitous Authentic Sustainable Low Cost smart home) concept. Aawatif HAYAR was also environment activist with the association "Il était une fois la terre" in France dedicated to eco-citizenship education and sensitization from 2004 till 2009. Currently Pr. Aawatif Hayar is currently leading the IEEE Smart city initiative project in Casablanca.