Celtic-Plus Proposers Day
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Summary of Proposal Ideas presented
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by Peter Stollenmayer, Celtic Office

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ODSI Users' Club

On-Demand-Secure-Isolation (ODSI) project:
➢ Deliver on-demand isolated, secure and dedicated environments of services over (potentially third party) electronic equipment
➢ Target mass production usages (low-cost and constrained CPU)
➢ OSDI Celtic-Plus Project starting in July 2015

ODSI Users' Club proposal:
The ODSI project proposes to establish a dedicated users' club to develop an ecosystem and facilitate the adoption and deployment of the ODSI technology.
✓ Early access to project deliverables
✓ Privileged access to the technology and information of the consortium with constraints of confidentiality.
✓ Consultative opinion on the project orientations.

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Network Function Virtualisation and Edge Computing for IoT

- Integration of IoT into software networking and cloud computing
- NFV and Mobile Edge Computing applied to IoT infrastructure and services
  - sharing of IoT and NFV infrastructure in multi-service multi-tenant environments
  - handling/processing of IoT traffic efficiently throughout the network, from cloud to network edge
  - easy scale up/down and mobility of IoT services
- "IoT virtualisation", turn legacy systems IoT capable
  - virtualise existing processes, sensors, and systems

Outcome
- flexible IoT deployment and operation with common NFV management and orchestration framework used in Telco networks
- Open Innovation Platform, combining SDN, NFV and lightweight virtualisation

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Do business in more than one language?

Existing nativy software manages everything:
from hiring to billing, within the host CMS

Collaboration wanted for:
- Improving the user experience for clients
- Developing a translation technology
- Integrating new SaaS

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TSV – Traceable Sports Videos

Vision: Make amateur sports visible, accessible, healthier, traceable and measurable

Problem: Huge growth on amateur sports and online amateur videos

Solution: Enable the current static thumbnail to become a dynamic point of Content Discovery increasing Video Views and Engagement and use Sensors and Big Data to measure, analyze and optimize.

Expected Outcome: Allow people to share their relevant videos and watch everywhere and with any device, while allowing health tracking of the activity.

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Spectrum Databases: For IoT & Future Wireless Networks

A novel tool set to change frequency spectrum allocation, management and regulation

- Until recently it was tedious to check unused frequency channels. The technology to allow sharing of frequency channels by secondary broadband wireless networks, was unavailable.
- Sharing of white space spectrum channels: Model-based Spectrum Toolbox: Techniques of Sharing and Reusing the spectrum without any interference, 5G, LTE-U,……
- The CSIR has developed a national geo-location spectrum database – a technology rooted in information and communication technology and Wireless Communication Networks. Enabling successful testing of spectrum sharing networks.

Testbed: Cape Town Spectrum sharing TVWS Network

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eMunicipality

People and their environment are changing
→ high demand for modern public services

Cross-device platform:
- New personalised public services that better suit the needs of users.
- Reduced administrative burden of processes.
- Increased transparency of and trust in public administrations.

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Browser	Mobile	IoT	M2M
Platform			
Open Data	Local Data	Social Data	Gov Data

Smart City Monitor
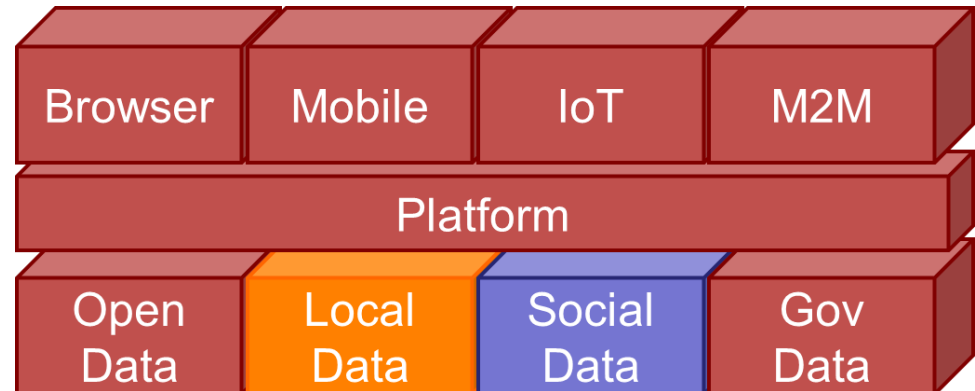
- A city is a complex system with many interconnected subsystems: public transportation, environment, energy, water quality, urban development, fire, health, emergency services, safety, recreation, education, waste, etc
- Citizens' quality of life shall be continuously improved and correspond to standards e.g. ISO37120
- A city needs monitoring, analysis, planning of improvements life and reducing negative impacts
- Achievements need benchmarking against others

- The *Smart City Monitor IT* solution is available for installation and running in Municipalities
- The application is offered as component for Smart Cities/Communities projects
- Partners are looking for joint projects

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Domestic Internet Search Engine

- The proposal aim is to serve request for domestic content with better quality than global search engines
- Domestic search engine will be base ground for commercial, value-added services
- Benefits of domestic search engine will have:
    - Search engine users
    - local Telco & ISP industry
    - Digital marketing industry
    - Language, alphabet
    - Cultural, ethnical, etc considerations

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powerful IT instruments for Monitoring & Management of Change

We need instruments empowering our capacity Manage the Change, understand Flow of Events, Consequences for Businesses, Life quality, Environment, prepare Right Responses.

Collaborative development of applications for private and public organizations answering practical needs in
- Manufacturing, Service providing, Health care, Hospitals, Energy efficiency, Corporate risk assessment
- Environment, Health and Safety under strict quality standards including Waste management, Building construction
- Compliance, audit major standards like ISO 9001 … 50001
- Quantifiable practical sustainability in regional and national governance at enterprise and public administration levels
- Assets and smart building management solutions
- Monitoring, analysis and benchmarking of large eco-environmental geographic areas like Danube Region, etc.

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Peer-to-peer Car Sharing Platform

ibiola® is the perfect solution for corporate Carsharing as well as for regional projects for residential areas and communities.

Peer-to-peer Carsharing platform – we want to go international and are looking for partners

The goal is a more efficient use of car fleets taking into account economical, ecological and social aspects.

We present a new cloud based solution that enables a new way of Corporate Carsharing and fleet management.

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Context-Aware Personalised Media

- Model and implementation
    - (1) real-time actionable consumer context based on sensor info
    - (2) personal media profile (PMP) – consumption behaviour and content preferences
    - (3) privacy-aware data models throughout
    - (4) Targeted content tagging & profiling
- Context-aware personalised content recommendation
- Multi-device storytelling and story scheduling prototype based on the above components

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Elderly Watch

- Vital signs tracking
- Indoor & Outdoor Locating System
- Context reporting in several levels of urgency
- Wearable/ Portable device
- Remotely chargeable with help of wireless technologies
- Cognitive Assessment Capabilities

Outcomes:
- Continuous watch of life quality of elderly patients
- Bring social awareness and support this challenge by the help latest technologies and methodologies

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IoT for Emergency Management

Motivation:
- Small or large scale emergency situations such as heart attacks or disasters can cause injury, death, and serious losses.
- These losses can be minimized by taking the right action at the right time.
- Goal: use IoT for emergency management

"Right action by right team at right time"

- Situation awareness: Reasoning about the emergency, Effective usage of sensors
- Resource management: Mobile resources (e.g. human, vehicles), Static resources (e.g., MRI, tomography, etc.), Capabilities of resources (e.g., expertise of medical staff, etc.)
- Planning: Determine possible ways of relieving the situation
- Team Formation and Resource Allocation: Determine the best ad-hoc team to execute the plan

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Alcatel ONETOUCH
5G devices testbed

Make the technology more affordable and valuable for the benefit of all.
Capture end-users expectations and devices constraints:

- new usages & new devices
- cost & UE design (e.g. #RFIC & antennas)
- battery life

Principle: develop an open UE test-bed for 5G features fast prototyping.
Available to other projects, vendors and operators experiments.

Outcome:

- Accelerate the 5G standard maturation with fast SDR prototyping from simulation results (ahead of standard).
- Catalyst for more collaborative projects.
- Support demonstrations, increase dissemination.

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Adaptive Transport Planning and Management Framework

- To improve quality of life in city
- Building a continuous improvement and management platform of city transportation which is modular and interoperable with other systems

- Connecting citizens, municipalities, fleet and drivers in order to give better service with affordable cost and comfort.

Outcome: Productification of platform with all modules which can be implemented for transportation in an affordable way

Impacts to City: Continuous improvement of transportation quality due to effective measurement and immediate action.

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Passion for life
– the digital health preventor platform

"Passion for life" is a spread concept that makes people aware of what they can do in their daily life to live healthy longer. It is about breaking common patterns, be aware of improvements, proceed from theory into action and make changes in your own life. The program consist of six areas; empowerment, safety at home, nutrition, active living, social life, medications.

Our idea is to bring this proven and spread concept to a new area were we bring the most out of ICT to assist in the goal. By co-designing and developing a platform, integrating technologies and tools we would like to support all six areas.

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INFRASTRUCTURE ASSET MANAGEMENT FOR DIGITAL BROADCASTING

The proposal is objected to provide important improvements on current digital broadcasting system of Turkey as follows:

- Creation and Implementation of National DB Infrastructure Standards
- Efficient transition to digital broadcasting
- Management and Monitoring of the national DB Infrastructure
- HW and SW co-design
- Continuous of the requirement management and tool chains
- Resource Planning and Allocation for the national DB Infrastructure

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