

Apresentação

Grupo de Pesquisa em Redes de Comunicações

Cidades Inteligentes e Humanas
na era da Internet das Coisas

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Agenda

- A Equipe;
- Uma Breve Definição de Cidades Inteligentes e Humanas;
- Aplicações Promissoras;
- O Suporte Tecnológico Necessário;
- Projetos em Andamento;
- Oportunidades para os Alunos;
- Como posso fazer parte do GPRC?;



Equipe

GPRC

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Parceiros Externos

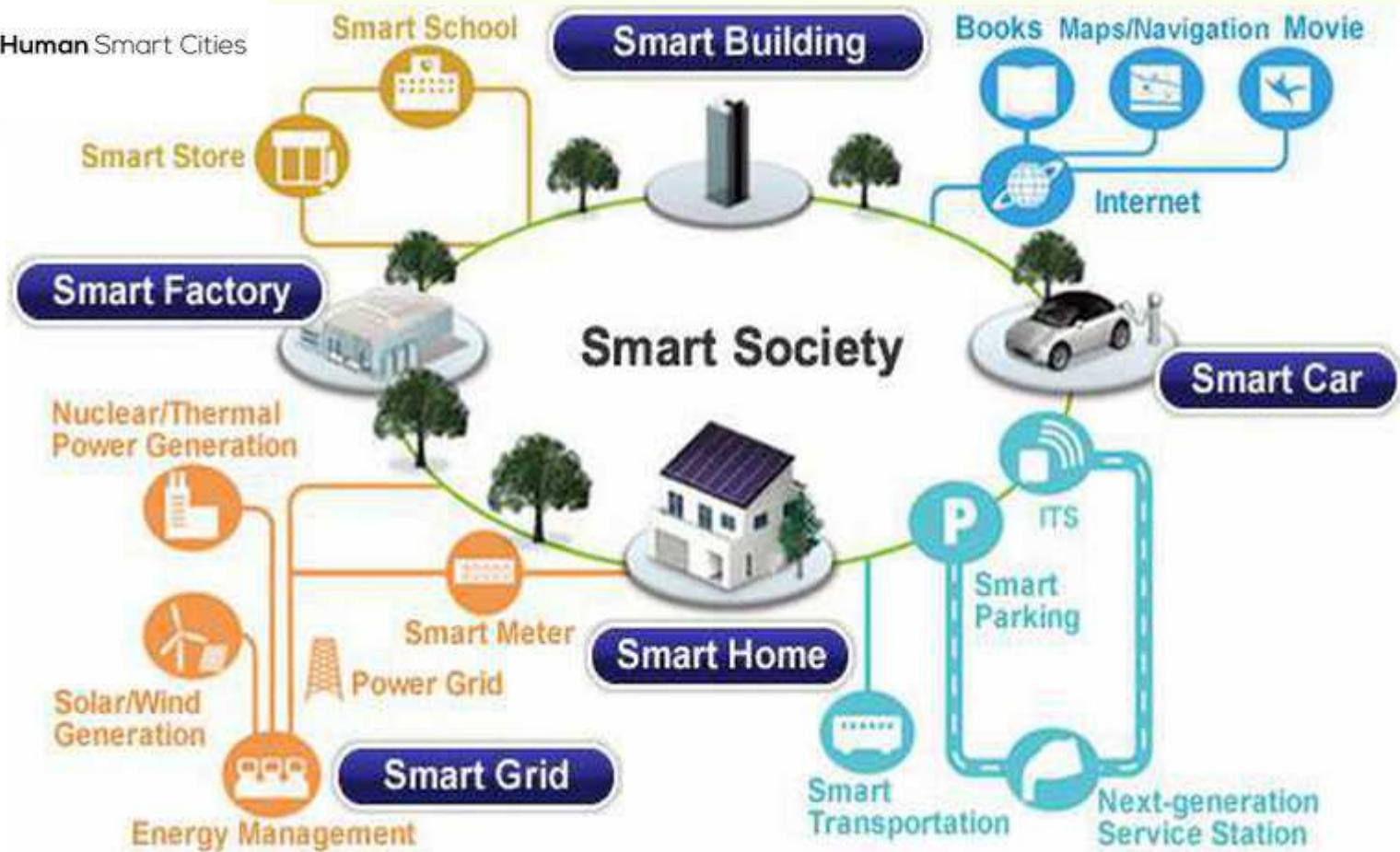
- PhD Anilton Garcia (UFES);
- PhD Flávio Garcia (IFES);
- PhD Magnos Martinello (UFES);
- PhD Marcelo Segatto (UFES);
- PhD Maria José Pontes (UFES);
- PhD Moisés Ribeiro (UFES);
- PhD Raquel Frizera Vassalo (UFES);
- PhD Roberta Lima Gomes (UFES);
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- PhD Rodrigo Varejão Andreão (IFES)
- PhD William Hisatugu (UFES);



Cidades Inteligentes e Humanas



Human Smart Cities



O Manifesto das Cidades Inteligentes e Humanas

- Human Smart Cities are those where governments engage citizens by being open to be engaged by citizens, supporting the co-design of technical and social innovation processes through a peer-to-peer relationship based on reciprocal trust and collaboration. The Human Smart City is a city where people – citizens and communities – are the main actors of urban “smartness”. A Human Smart City adopts services that are born from people’s real needs and have been co-designed through interactive, dialogic, and collaborative processes.



O Papel do Cidadão nas Cidades Inteligentes e Humanas

In a Human Smart City, people are not obliged to adopt technologies that have been selected and purchased by their municipal governments; they rather are encouraged to compose their own services using available technologies in simple, often frugal solutions. [...] Through the appropriate governance of social and technical innovation and the integration of Future Internet technologies, Living Labs and Social Innovation, the Human Smart Cities vision aims to build on a new sense of belonging and identity, wellbeing and community, to shape a better and happier society...



Aplicações Promissoras

Mobilidade Urbana.

- compartilhamento de veículos particulares;
- identificação de gargalos de mobilidade;

Monitoramento de Recursos Naturais:

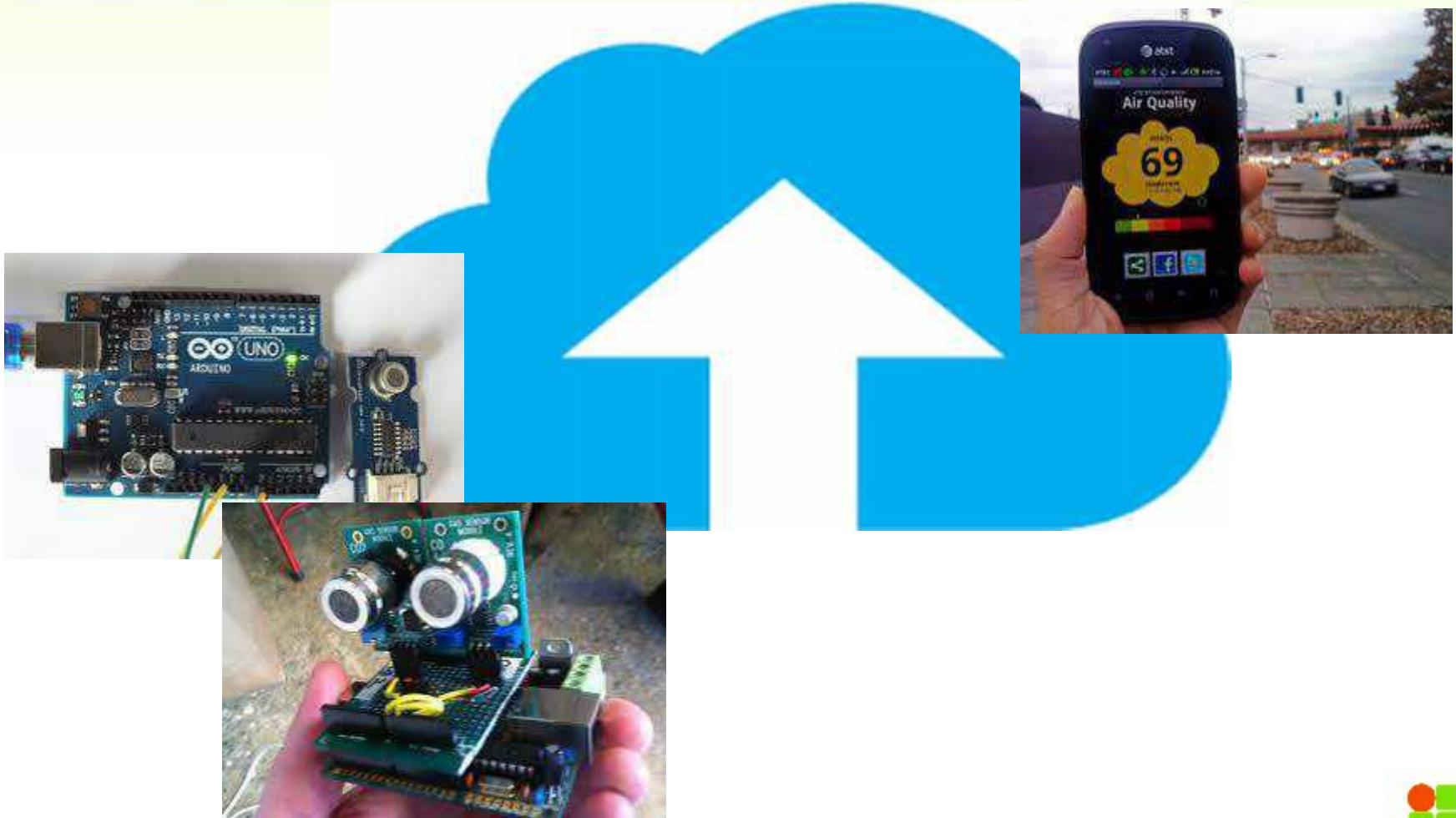
- qualidade do ar;
- disponibilidade hídrica;

Atendimento ao Cidadão

- serviços urbanos;
- cuidados médicos pessoais;



Exemplo de Aplicação



O Papel dos Living Labs

“A Living Lab is a real-life test and experimentation environment where users and producers co-create innovations. [...] Public-Private-People Partnerships (PPPP) for user-driven open innovation.

- Co-Creation: co-design by users and producers
- Exploration: discovering emerging usages, behaviours and market opportunities
- Experimentation: implementing live scenarios within communities of users
- Evaluation: assessment of concepts, products and services according to socio-ergonomic, socio-cognitive and socio-economic criteria.”



O Papel dos Living Labs



O Papel dos Laboratórios Abertos



“ The Fab Foundation is a US non-profit 501(c) 3 organization that emerged from MIT’s Center for Bits & Atoms Fab Lab Program. Our mission is to provide access to the tools, the knowledge and the financial means to educate, innovate and invent using technology and digital fabrication to allow anyone to make (almost) anything, and thereby creating opportunities to improve lives and livelihoods around the world.”



O Papel dos Laboratórios Abertos

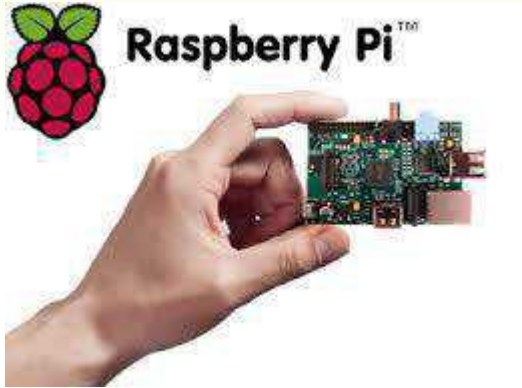


O Suporte Tecnológico Necessário

- Sensores e Plataformas Embarcadas de Prototipação;
- Comunicação sem Fio;
- Internet do Futuro e as Redes Definidas por Software;
- Internet das Coisas;
- Entidades Cyber-físicas;
- Datacenters e Nuvens Públicos;



Sensores e Plataformas Embarcadas de Prototipação;



Comunicação sem Fio



Mobile communications: from 1G to 5G

Generation	Device	Specifications
1G		<ul style="list-style-type: none"> 1G For voice only Low data rate Low capacity Low security Low quality Low speed
2G		<ul style="list-style-type: none"> 2G For voice and text Low data rate Low capacity Low security Low quality Low speed
3G		<ul style="list-style-type: none"> 3G For voice and data Medium data rate Medium capacity Medium security Medium quality Medium speed
4G		<ul style="list-style-type: none"> 4G For voice and data High data rate High capacity High security High quality High speed

People

People & Things

5G is about Communication, Storage, Processing...

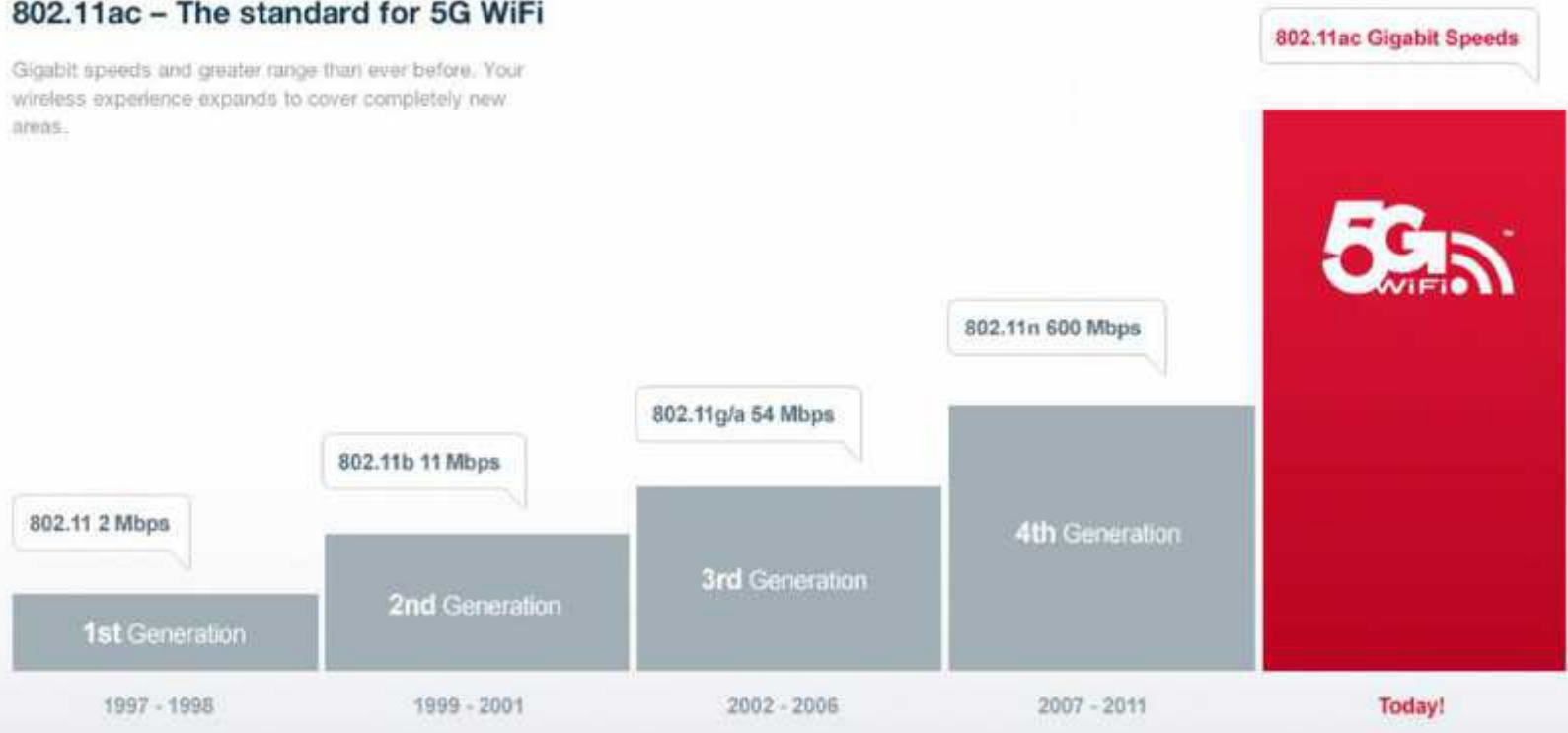


Redes sem Fio Pessoais

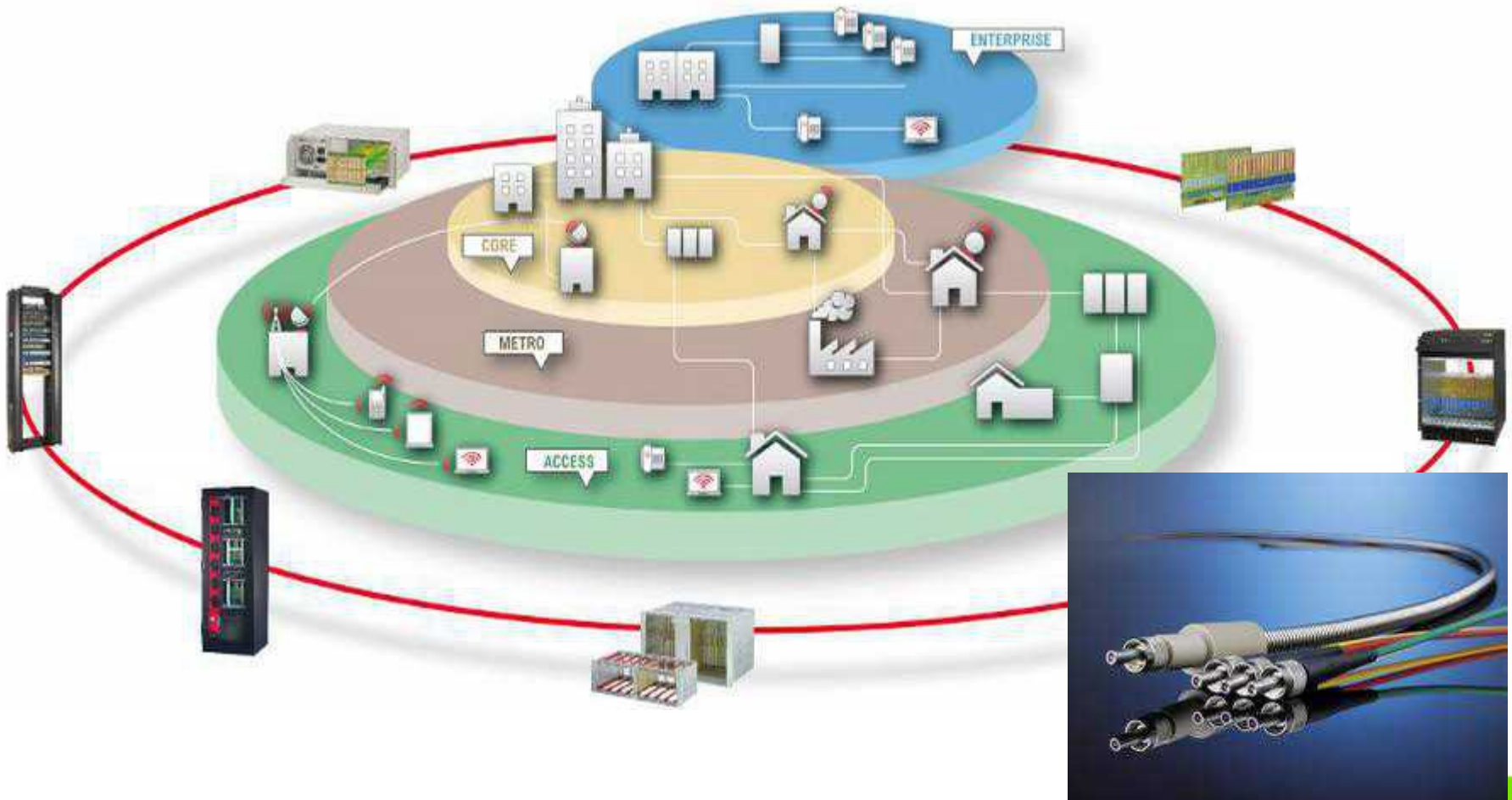
EVOLUTION

802.11ac – The standard for 5G WiFi

Gigabit speeds and greater range than ever before. Your wireless experience expands to cover completely new areas.



Redes Ópticas de Alta Velocidade



Internet do Futuro e Redes Definidas por Software

