International Telecommunication Union

# The European perspective

Dr Walter v. Pattay

CENELEC: Smart Home Code of Practice

Clause Editor

ITU-T Workshop on Home Networking and Home Services
Tokyo, Japan, 17-18 June 2004

# Table of contents

- Definition of Smart House / Intelligent Home
- Conditions for the market success
- Specifications to be used
- Europe present situation
- The Smart House of CENELEC

# Intelligent Home - Produkts, Services

ITU-T

**Home Service Provider**

**Communication Provider (Telco, Utility, Cable TV, Internet Service Provider)**

- Security Service
  Police
  Fire Department
- Energy Management
- Virtual Presence Service
- SOHO Assistance
- Health Care Service
- Education and Entertainment Support
- Equipment Maintenance

Central Home Server

Home Gateway/ Platform

Control Bus

Communication Bus

Remote

Remote acc

Internet

**Source: Siemens**

ITU-T

# For years we expect market success any day

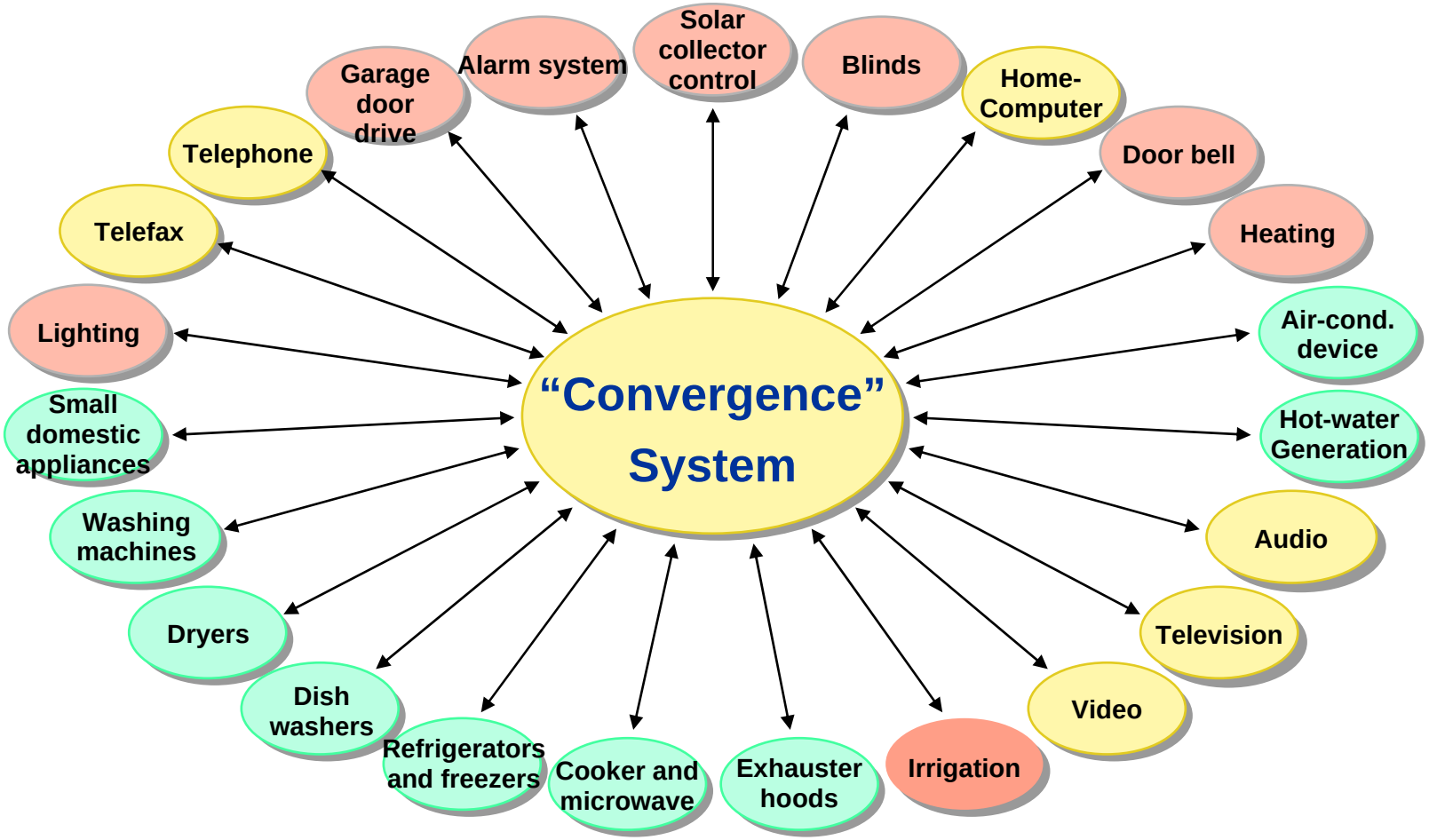
- The technology is there.
- Experts talk about Intelligent Homes for decades.
- Feasibility has been demonstrated many times.
- Many standards are available.
- The market moves slowly.

ITU-T

# The secret to success is user benefit, not low price

- There is no single „killer application“.
- Every user starts with an application that attracts him personally.
- He will enhance his system, when he can do so by add on.
- The system architecture needs to support all of them.

# Seamless communications within the home



# Applications in the home

ITU-T


10/100BASE-T | 1394 Serial Bus

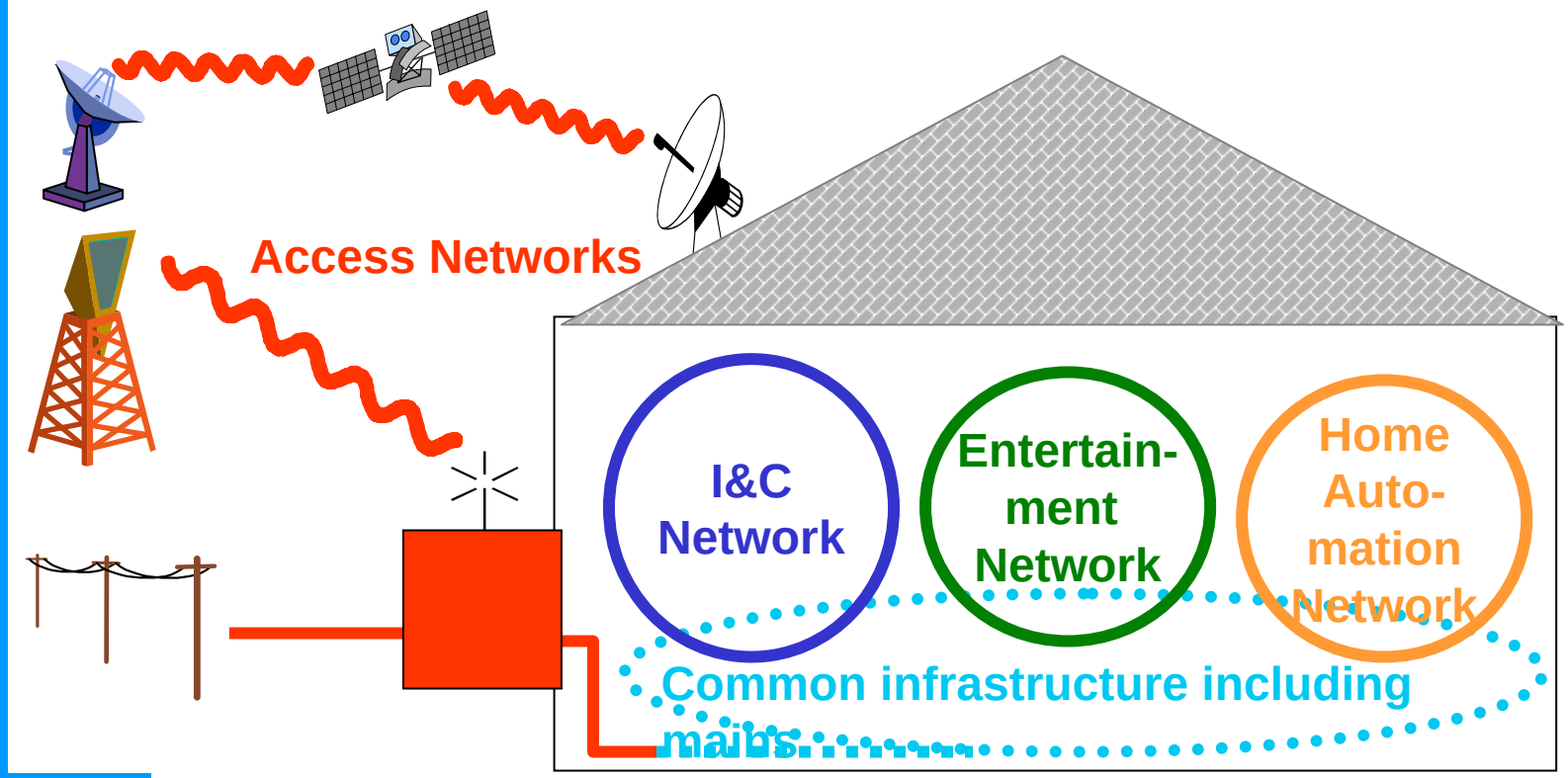
ISDN | Analog | xDSL

TV | Cable TV | SAT-TV

Lighting | HVAC | Security | ...

dates

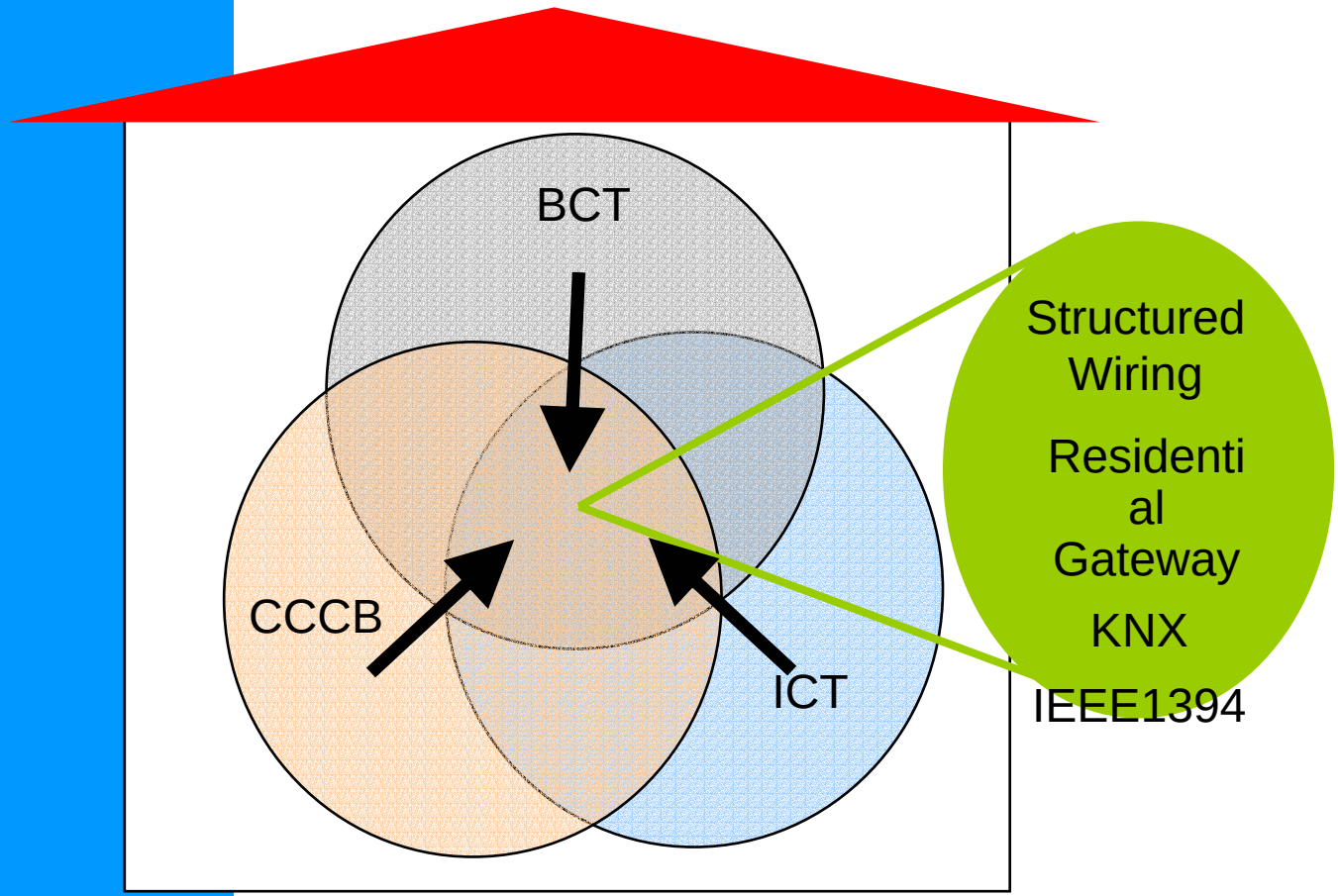
# Starting position: 4 Networks at Home




Source: Parks Associates, Siemens ZT IF IK, ZT SRI

At Home the separate networks for Information, Communication, Entertainment Multimedia and Home Automation converge. Barriers to mains get lower.

# Network Integration in the Home




CCCB
Commands, Controls and Communications in Buildings

BCT
Broadcast Communications Technologies

ICT
Information and Communications Technology

ITU-T

# Conditions for the success of Smart Homes

- Accepted systems architecture.
- Open specifications for subsystems and components.
- Guaranteed compatibility
- Availability of products and services.
- User awareness of benefit.
- Educated sales forces, installation and maintenance.

# Standards for subsystems available

- ICT: ITU, ISO/IEC JTC 1, ETSI; IEEE
  - E.g. ISDN, DECT, GSM, ...
    ISO/IEC 8802-3, ..
    Firewire, ..
- BCT: CENELEC / IEC / ITU
- CCCB: CENELEC

European SmartHouse uses specifications from all sources

# KNX: the Basis for Home Automation

ITU-T

**Service Providers**

- Service / Maintenance
- Security / Surveillance
- Remote Meter Reading
- Healthcare/ Services
- ...

Electricity suppliers

Telecom providers

**Media:**

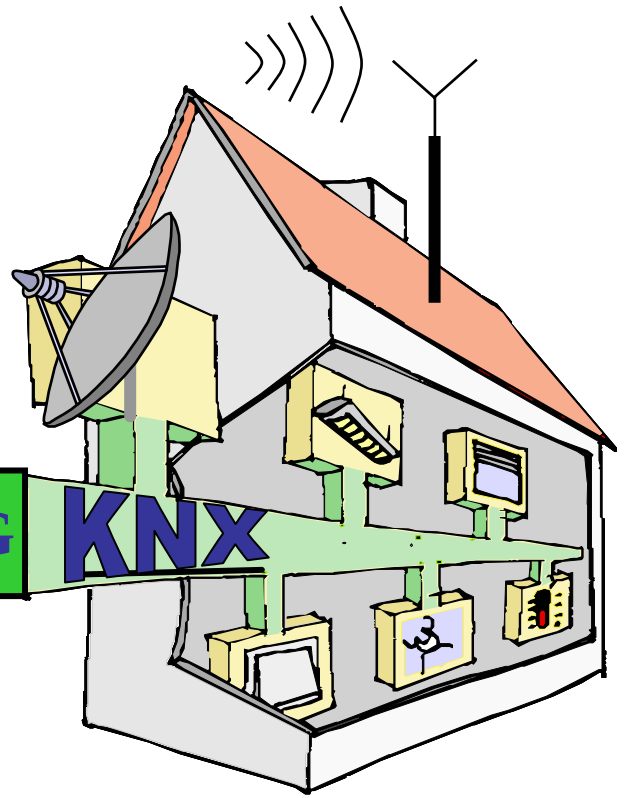
RF

Satellite

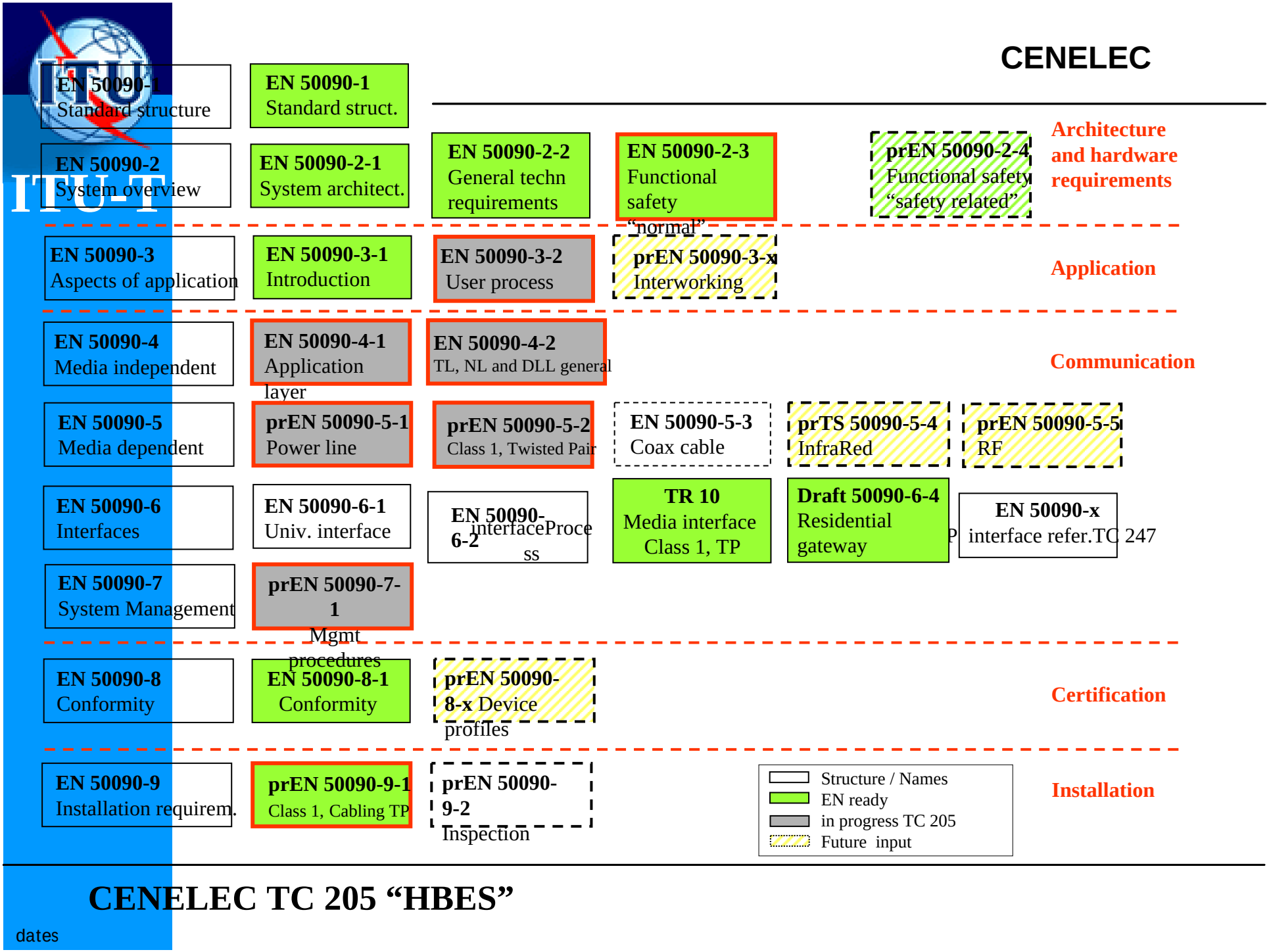
Broadband network

Telephone network

Power-line carrier

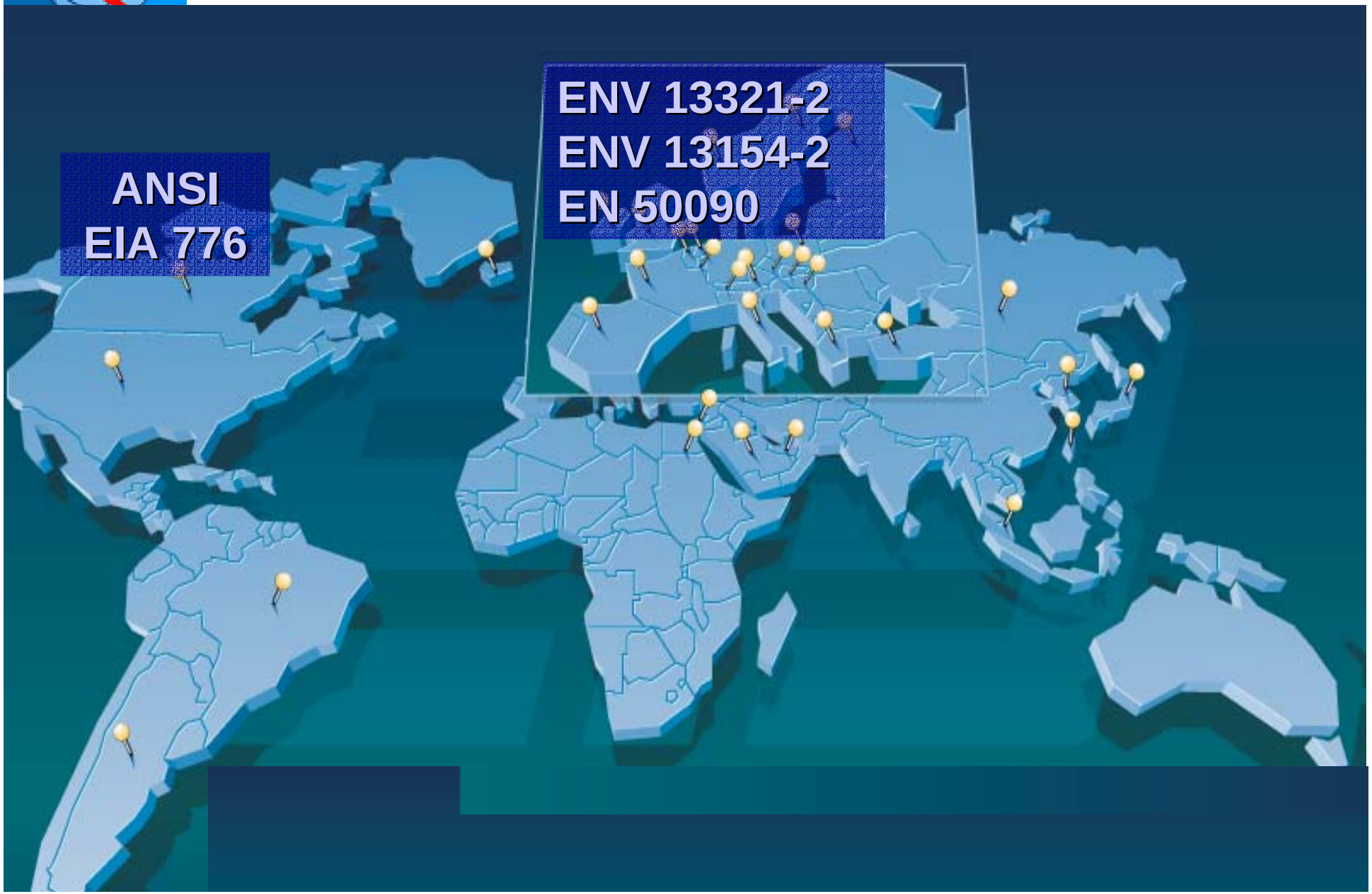



**RG = Residential Gateway: "the electronic door"**


ITU-T
CENELEC
EN 50090-1 Standard structure
EN 50090-1 Standard struct.
EN 50090-2 System overview
EN 50090-2-1 System architect.
EN 50090-2-2 General techn requirements
EN 50090-2-3 Functional safety "normal"
prEN 50090-2-4 Functional safety "safety related"
Architecture and hardware requirements
EN 50090-3 Aspects of application
EN 50090-3-1 Introduction
EN 50090-3-2 User process
prEN 50090-3-x Interworking
Application
EN 50090-4 Media independent
EN 50090-4-1 Application layer
EN 50090-4-2 TL, NL and DLL general
Communication
EN 50090-5 Media dependent
prEN 50090-5-1 Power line
prEN 50090-5-2 Class 1, Twisted Pair
EN 50090-5-3 Coax cable
prTS 50090-5-4 InfraRed
prEN 50090-5-5 RF
EN 50090-6 Interfaces
EN 50090-6-1 Univ. interface
EN 50090-6-2 interfaceProcess
TR 10 Media interface Class 1, TP
Draft 50090-6-4 Residential gateway
EN 50090-x interface refer.TC 247
EN 50090-7 System Management
prEN 50090-7-1 Mgmt procedures
EN 50090-8 Conformity
EN 50090-8-1 Conformity
prEN 50090-8-x Device profiles
Certification
EN 50090-9 Installation requirem.
prEN 50090-9-1 Class 1, Cabling TP
prEN 50090-9-2 Inspection
Structure / Names
EN ready
in progress TC 205
Future input
Installation
CENELEC TC 205 "HBES"
dates

# Practical experience

# Standardised



# Europe: status today

- BCT is a commodity
- ICT on the way from wide use to be a commodity, (telephone, cellphone already are).
- Broad experience with CCCB:
  - Products that started in buildings reached the home.
  - Products originally designed for the laymen provide professional functions.
  - High end users, early adopters, investors.
- Well trained professionals for all application groups.

# Europe: room to improve

- Better transparency for:
  - Standards,
  - wide product and service offering.
- More CCCB services from outside the home.
- Wider bridges between application groups: CCCB, ICT and BCT.
- A widely accepted overall systems architecture.

# What is Smart House initiative?

- Smart House sets the path for wide acceptance of the home of the future in Europe.
- SMH Phase II
  - A Code of Practice (CoP) for the Smart House,
  - Supported by EU Commission,
  - Reporting to ICTSB (ICTSB/SHSSWG),
  - Input from all the Stakeholders,
  - Utilizing all the standards and practical output from EU FP6 Projects.
- Managed by CENELEC under TC 205

# Objectives of Smart House

- Deliver a Forum for information and understanding.
- Prepare an Interim Report covering all influences.
- Prepare a Code of Practice.
- (Beyond this work, the aim is to have the CoP accepted and used in the marketplace, for it to be maintained and regularly updated.)

# What will the Code of Practice achieve?

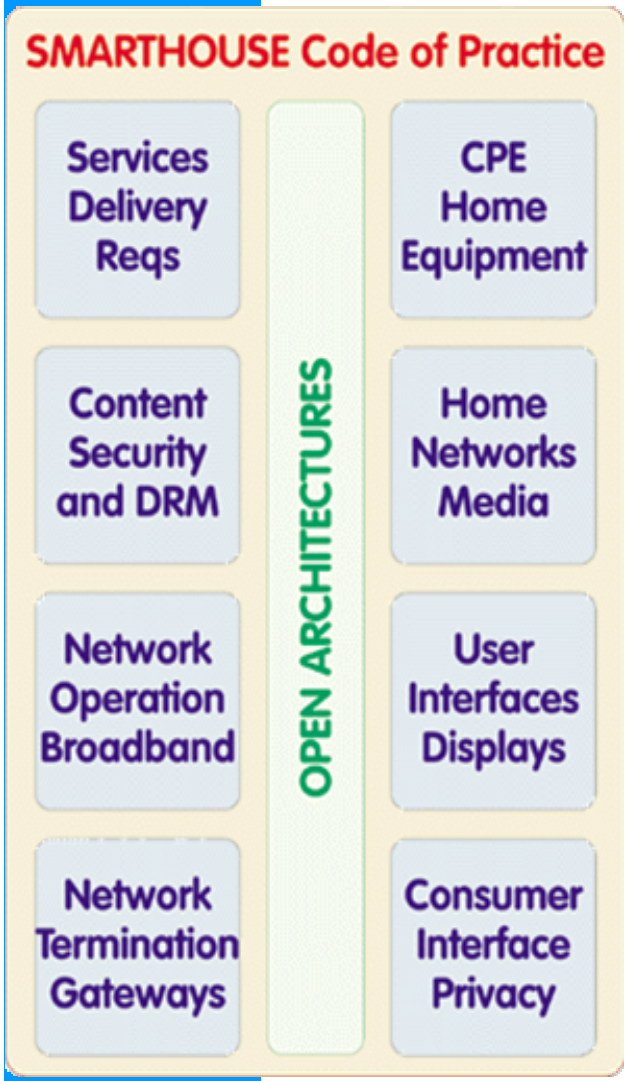
- It will reference the existing standards related to Smart House.
- It will describe their role within a SmartHouse architecture.
- It will report on standards being developed.
- It will identify the gaps and the need for standardization.
- It will notify eventual redundant and competing standards and provide recommendations.
- It will provide a guidance for users, suppliers and installers.

# Who creates the Code of Practice?

- The Smart House CoP unites the industry in the pursuit of a common and coherent goal.
- Will make the House of the Future a reality for the normal user.
- It is a CONSENSUS BUILDING initiative.
- With the support of key players:
  - The Consumer (ANEC);
  - The Industry (DHWG, OSGi, KONNEX, CECED, Philips, Siemens, Thomson, Telecom operators, Energy providers, Installers, etc…);
  - The European Commission: Standardization (DG ENTR) & Research (DG INFSO).

# SmartHouse Project Sections

The subsections of the Code of Practice will cover:




- The Service Provider aspect.
- Content, Broadcasting (narrowcasting), DRM and Security.
- The Network Operators' aspect and Broadband delivery.
- Network Termination and Residential Gateways.
- Customer premises equipment (any electronic appliance or equipment in the home).
- Home networks and in-home communication (and considerations for the building).
- The User Interface, A/V equipment and Displays.
- The Consumer (Subscriber), interface and privacy.
- Architectures.

# Sections & Team Leaders

| | |
|---|---|
| Services and Service Providers | Bruno Ziegler of EDF |
| Security | Per Kaijser Independent Consultant |
| Network Operators | Alistair Munro of Bristol University |
| Network Termination and Gateways | Milan Erbes – ETSI/CISCO |
| Customer Equipment A/V and Appliances | Paolo Falcioni – CECED/ WRAP |
| Home Networks and Media | Walter von Pattay – ISO/IEC – Independent |
| User Interfaces | Roger Torrenti – BIP/ Homega Research |
| Consumer Issues | Roy Brooker – ANEC/ Intertek |
| Architectures | Peter Colebrook – BSI/ i&i Limited |
| Installation | Luc Baranger - FFIE |

# Deliverables / timeframe

- The Contract between the EU Commission and CENELEC sets a requirement for particular deliverables, milestones and performance indicators:
  1. Roadmap for the work — 19th February 2004
  2. Interim Report — 19th September 2004
  3. Final Report / Code of Practice — 19th August 2005
- Organize the Smart House Forum. It met on 11 May 2004 and will meet in 2005 (probably in April).
- Lastly, this work produces the CoP a deliverable that will help the marketplace accelerate its growth in the area of SMARTHOUSEs. This implies:
  - regular maintenance and upgrading of the CoP on a yearly basis on into the future.

# SmartHome a building block for the European futur

- The CoP supports the objectives of e-Europe 2005 where every citizen has a wide range of electronic Services.
- The citizens using new services will get equipment, systems and networks in their “Smart Houses” that are:
  - **easy to use, interoperable**, providing intuitive interaction.
  - secure, safe and conforming to **open** and transparent **standards**.
  - compatible with public procurement rules, since a significant proportion of the “Smart Houses” of the future will be equipped with help from public funds, e.g. social housing.
  - **intuitive**, since many people are disadvantaged by disability, poor health, poor education or age.
- Similar requirements apply for the services and applications provided by Service Providers.

ITU-T

# I am happy to answer your questions off line

# Also feel free to consult the SmartHome Homepage:

**http://www.cenelec.org/Cenelec/CENELEC+in+action/Horizontal+areas/ICT/Smart+House.htm**

# or to contact me via http://sc25.iec.ch/