

# **CE4A**

## **Consumer Electronics for Automotive**

**Cross car manufacturer working group  
for active standardization of  
mobile devices interfaces**

**Automotive Electronics and Electrical Systems Forum**

**European Automotive Components Expo 08**

# Outline

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**Motivation**

**Objectives**

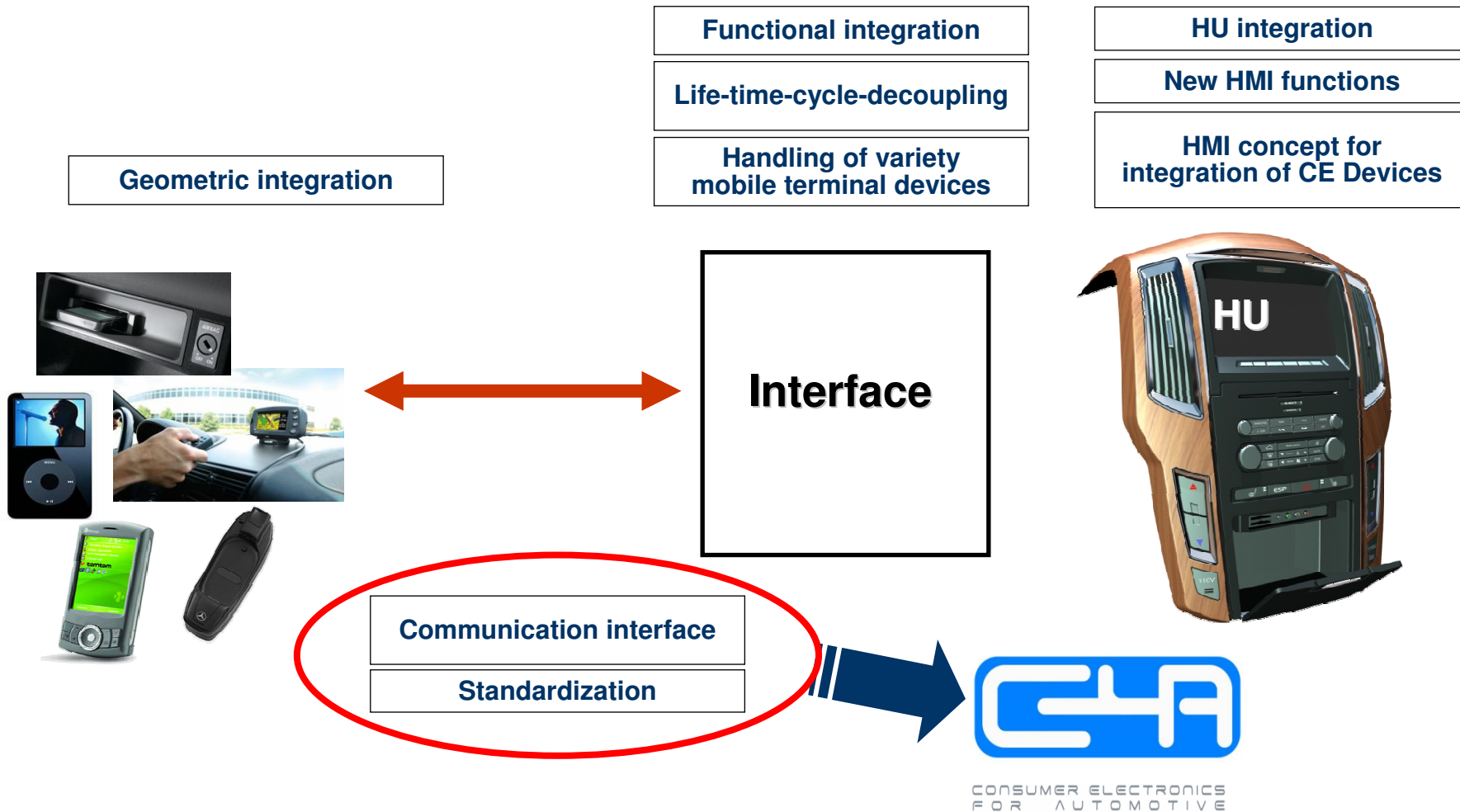
**Organization**

**Expert Groups Overview**

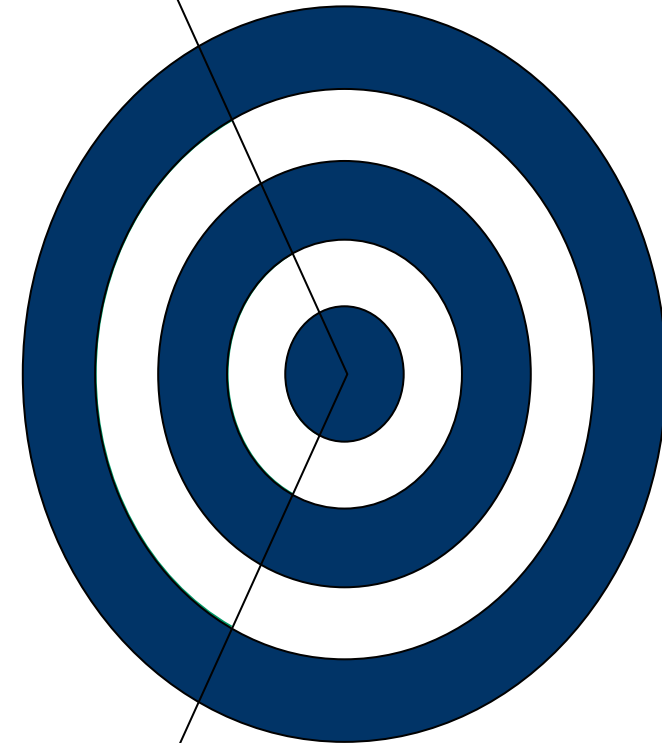
**Achievement**

# CE4A | Motivation

Seamless interfacing to Consumer devices is not a differentiating feature, it is a MUST for all car OEMs.



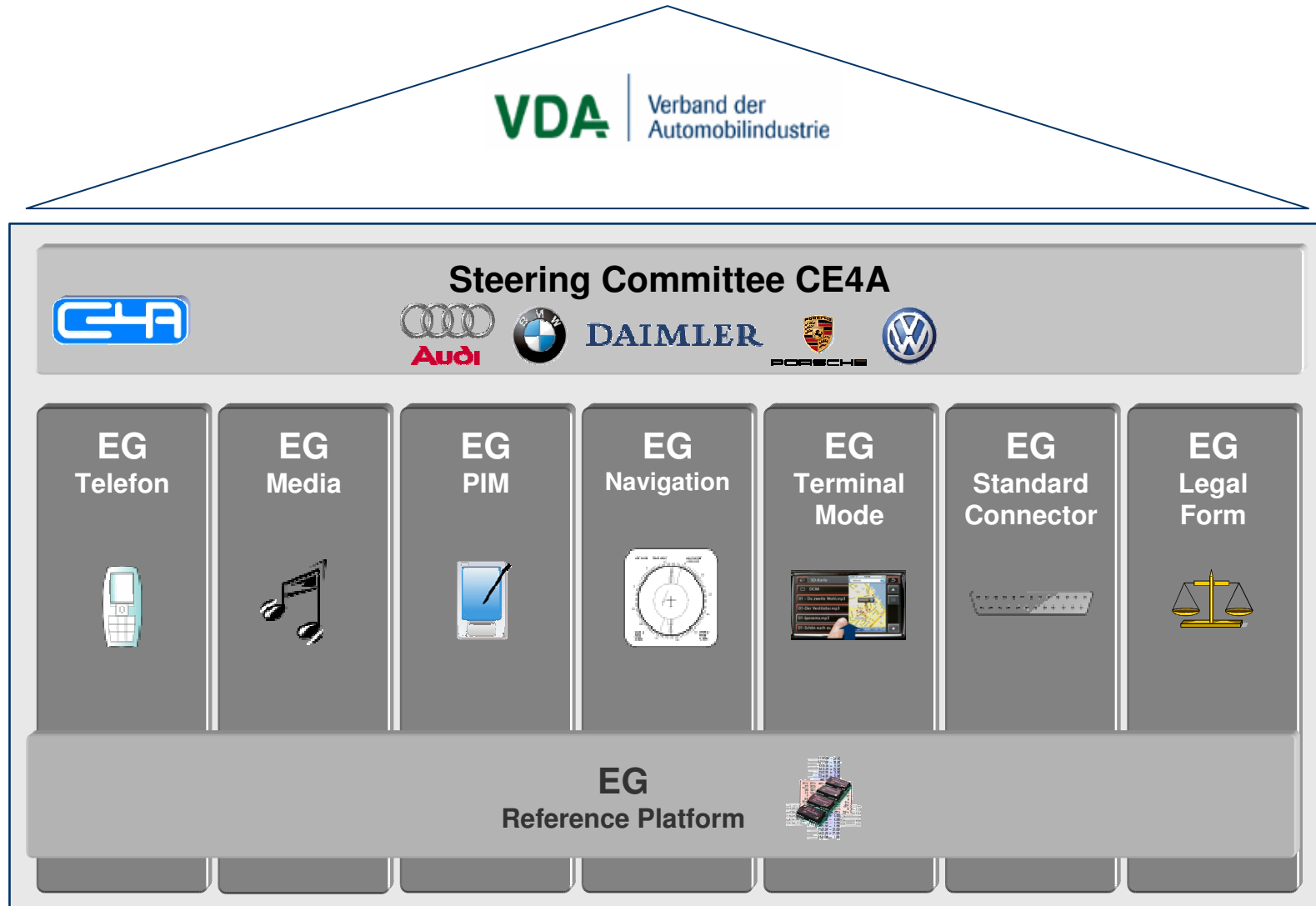
- No development of own proprietary interfaces, but taking existing standards of the Consumer Electronics (CE) industry instead.
- Focus on those standards gaining popularity in the consumer market
- Participation in standardization committees, e.g. Bluetooth SIG and USB IF forum.
- United, unanimous actions by the vehicle manufacturers to gain attention and influence in the CE industry.
- Joint effort with the CE manufacturers
- Common reference platform for harmonization of implementation on both the vehicle-OEM side and the CE-terminal-device side .



# CE4A | Organization



VDA | Verband der Automobilindustrie



- Formation of CE4A in 2006 to centralize existing joint efforts and activities amongst the German OEM
- Founding members are Audi, BMW, Daimler and Volkswagen
- CE4A becomes a committee of VDA in 2007
- Porsche joining in 2007
- VDA Congress Baden Baden 2007: CE4A goes public
- Objectives for 2008:
  - Consolidate organization
  - Talks to other OEMs regarding membership




## EG Telephone



- **Create well defined standardized interfaces for seamless and user friendly mobile phone vehicle integration**

- Adopt Bluetooth Wireless Technology for in-vehicle use cases
- Apply Wired Technologies for in-vehicle mobile phone integration
- Define and implement premium usability experience in the vehicle
- Interoperability requirements, testing and defect management

- **Important activities:**

- ▶ Representation of OEM interests in the Bluetooth Car Working Group
- ▶ Two Interoperability test sessions per year
- ▶ Two road-mapping meetings per year with mobile phone manufacturers
- ▶ Contact to network operators
- ▶ Positioning papers:
  - ▶  Automotive Premium Phone Integration
  - ▶ AT-Commands for Automotive Premium Phone Integration

## EG Media



- **Standardization** of Music- and Video-Player/ automobile interfaces
- **Representation** of OEM interests in relevant **standardization committees**
  - ▶ USB IF Forum
  - ▶ BT Audio/Video-Working-Group
  - ▶ DLNA
- **Relationship** to media focused **CE manufacturer**

- **Important activities:**
  - ▶ Contact to manufacturers (*Microsoft, Apple, Philips, iRiver, ...*)
  - ▶ Regular Interoperability Tests based on unified test cases
  - ▶ Contact and collaboration in MTP standardization over *USB.org*
  - ▶ Contribution to AVRCP 1.4 standardization (Bluetooth Audio-Streaming)
  - ▶ Definition of media use cases for *Reference Platform EG*
  - ▶ Positioning papers:
    - ▶ Media Player integration into the car environment
    - ▶ Multi-Profile Interoperability and Testing



## EG PIM



- **Standardization** of interfaces for an optimal integration of Personal Information Management (PIM) functions.

- ▶ contacts
- ▶ messaging
- ▶ terms, tasks
- ▶ notes

## ■ Important activities

- ▶ Contacts to manufacturers (*Nokia, RIM, ...*)
- ▶ Contact and collaboration in BT standardization over BT SIG
- ▶ Review MAP standardization (Message Access Profile)
- ▶ Develop and define new standards for future use cases and functions
- ▶ Positioning paper:
  - ▶ Personal Information Management integration into the car environment



## EG Navigation



- **Standardization** of interfaces to integrate navigation functionality of portable devices into the car system
- **Representation** of OEM interests in relevant **standardization committees**
  - ▶ BT SIG
- **Relationship** to navigation focused **CE manufacturer**

### ■ Important activities:

- ▶ Contact to manufacturers (*Nokia, TomTom, Garmin, ...*)
- ▶ Contribution to standardization Bluetooth Navigation Profile within the Car Working Group
- ▶ Positioning paper:
  - ▶ Use Cases
  - ▶ Technology evaluation
  - ▶ General interoperability requirements



## EG Standard Connector



- Work with CE OEMs and standardization bodies to **influence decision making**, to **create standards** and to gather **recommendations and requirements for the need of the automotive OEMs**.
- **Create connectivity (physical and logical) solutions** to CE devices that can be commonly used in CE4A member automobiles.

### ■ Important activities:

- ▶ Define a common connector as an interface to a Media Gateway on the automotive side.
- ▶ Authentication solutions for portable players, e.g. iPod, Zune
- ▶ Automotive “Wireless Charging” solution for CE devices.

## EG Terminal Mode



- **Standardization of interfaces** to make applications and functions of portable devices applicable to the car system
- **Representation** of OEM interests in relevant **standardization** bodies
- **Relationship to CE manufacturer**

### ■ **Important activities:**

- ▶ Define Use Cases
- ▶ Identify applications
- ▶ Identify relevant interfaces and protocols
- ▶ Establish relationship to CE manufacturers and standardization bodies
- ▶ Positioning papers are being created



## EG Reference Platform



- **Definition** of a **clear standard** for interfaces between automobile and mobile devices to CE-industry.
- **Definition** of **common requirements** of all OEMs to a reference platform.
- **Specification** of a reference platform to be used by CE companies to test the interoperability of terminal devices.
- **Aggregation** of OEM comprehensive test-settings and test-results

### ■ **Important activities:**

- ▶ Creation of specification for reference platform
  - ▶ Modular, extendable
  - ▶ PC based, ready for embedded implementation
  - ▶ Including debug ports
- ▶ Definition of test cases by reusing existing test environment at OEM's
- ▶ Implementation start to be expected in mid 2008

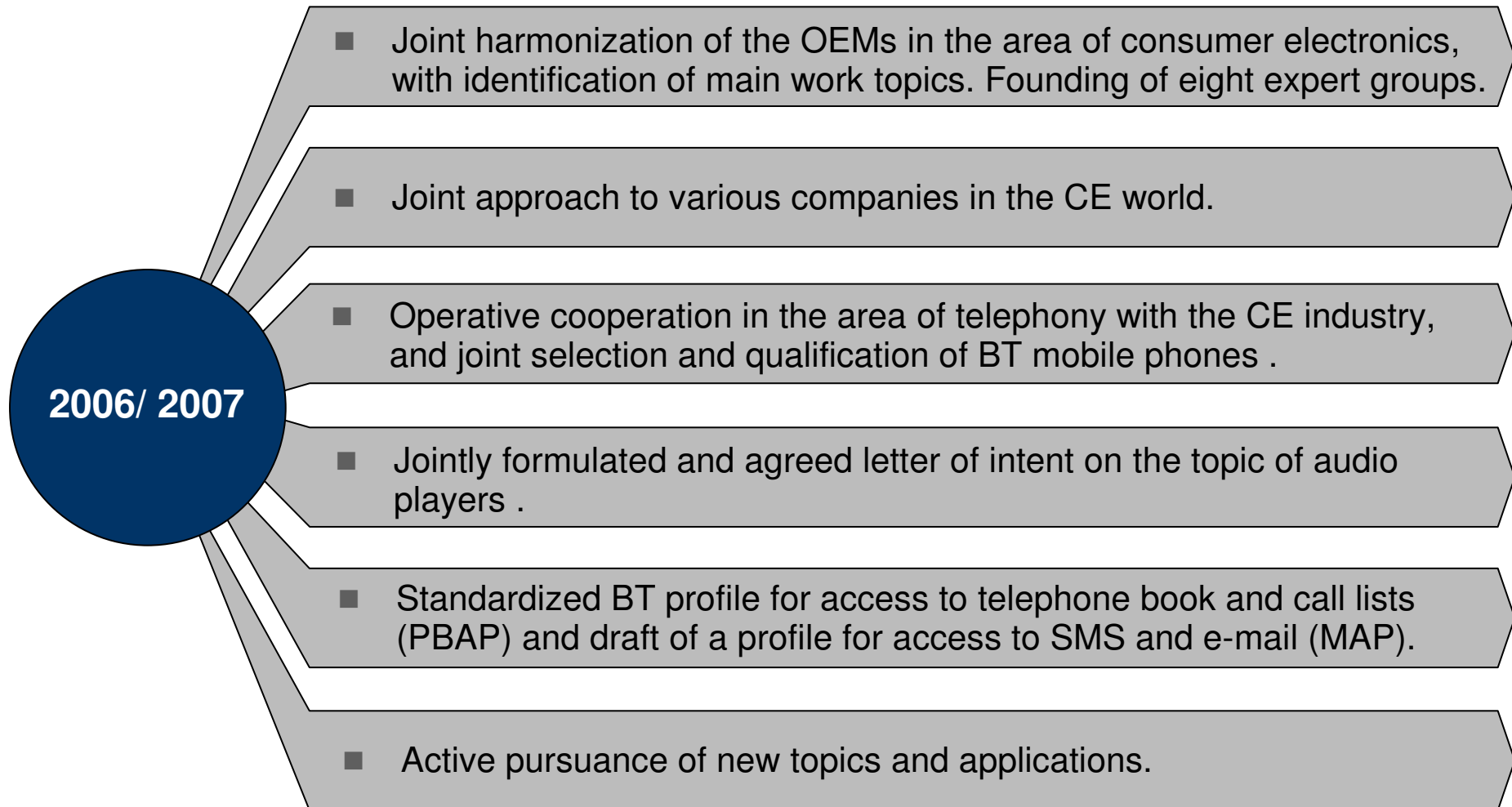
## EG Rights Form



- Handle **legal terms** for CE4A in **public**
- Provide guidance for legal matters **within** CE4A
- **Reservation** of label and logo
- Translate **VDA requirements into CE4A**
- **Formulate CE4A objectives and goals**
- **Formulate terms of business**

### ■ **Important activities:**

- ▶ Reservation of label and logo
  - ▶ Done for Germany
  - ▶ International reservation for EU-Member-States and USA is ongoing
- ▶ Definition of Terms and Conditions for joining CE4A
- ▶ Handle all legal terms of CE4A
  - ▶ Representation of CE4A in standardization bodies
  - ▶ Relationship to other organizations and companies



**Thank you for your attention!**

**[www.ce4a.org](http://www.ce4a.org)**