Digital Identity for University People

G. Gentili [1], F. Ippoliti [2], M. Maccari [1], A. Polzonetti [3]

[1] Computer Center, University of Camerino - Italy
[2] Computer Science Division, University of Camerino - Italy
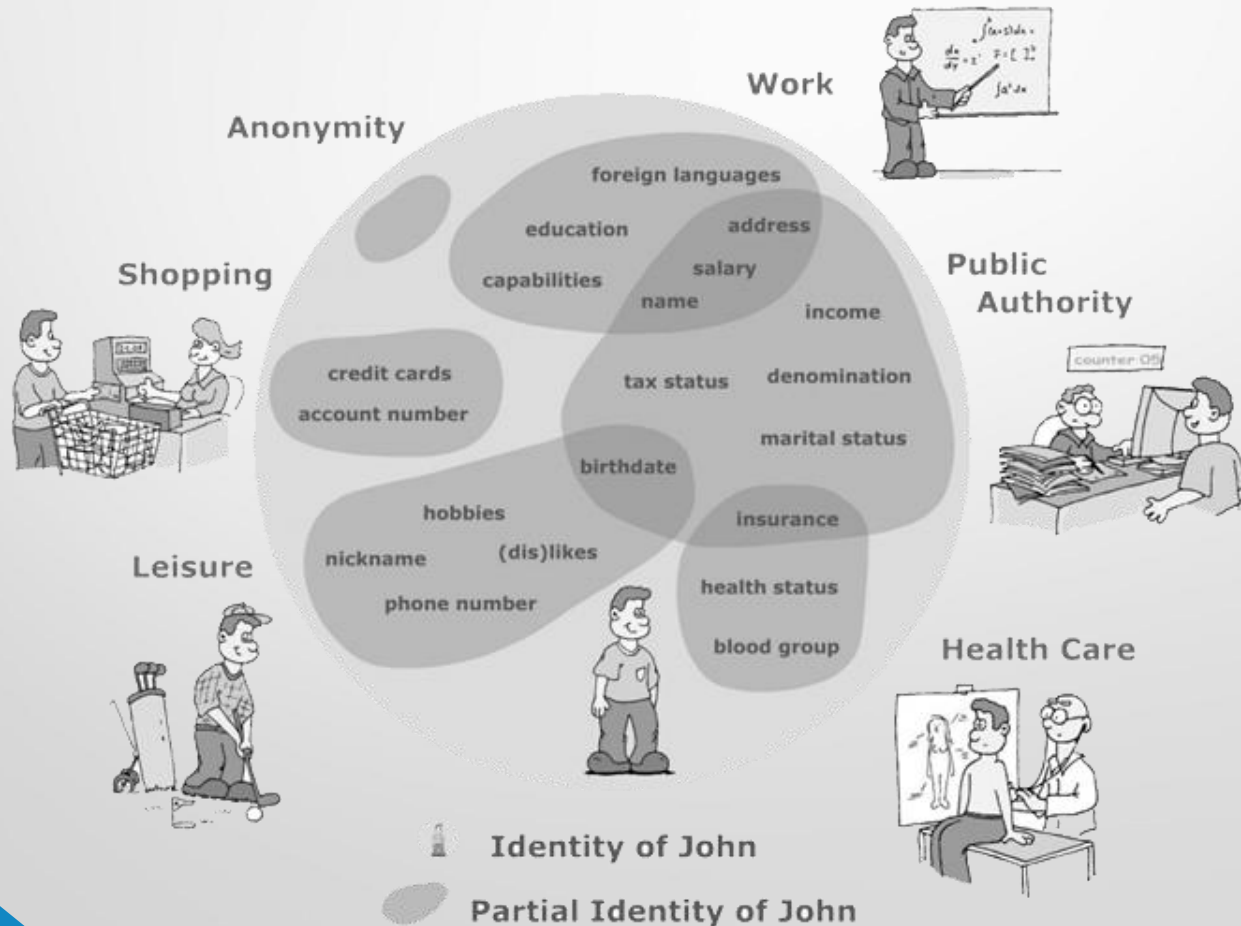[3] ELIOS SRL, University of Camerino Spin Off - Italy

Agenda

- Digital Identity vs Federated Digital Identity

- Identity Management

- European eID solutions

- Enjoy My UniCam project

- Results

- Conclusions

Digital Identity

"An identity of an individual person may comprise many partial identities of which each represents the person in a specific context or role" (Pfitzmann, Hansen)

Work

Anonymity

foreign languages

education   address

Shopping   capabilities   salary
              name   income

Public
Authority

credit cards   tax status   denomination
account number
                          marital status
              birthdate

hobbies   insurance
Leisure   nickname   (dis)likes
              phone number   health status

                                    blood group   Health Care

Identity of John

Partial Identity of John

Federated Digital Identity

Agreement between organizations and resource providers, with which the participants decide to trust each other of information exchanged in the processes of

- Authentication
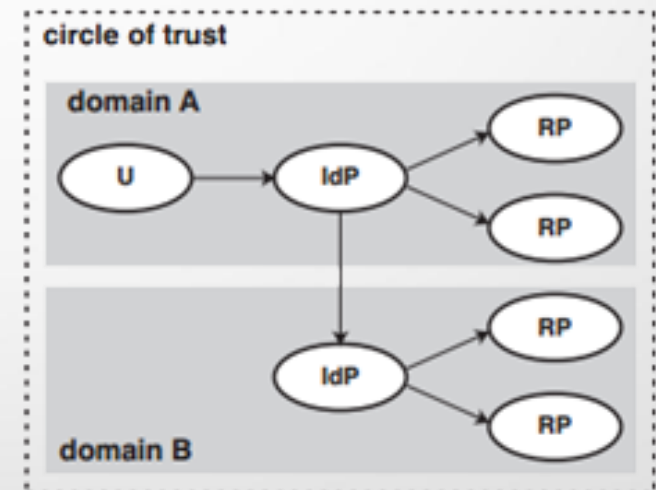
- Authorization

- Accounting

on the basis of rules and policies established to manage relationships of trust.

Identity Management (IdM)

Digital Identity
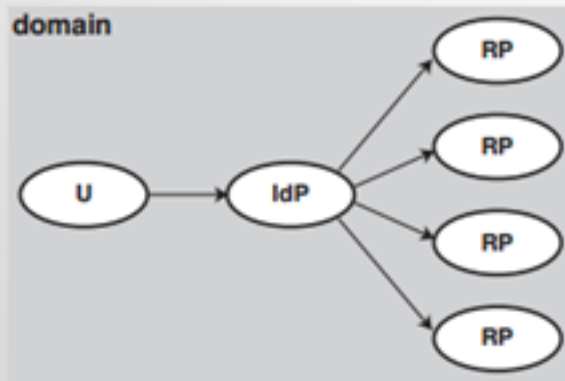
## Federated Digital Identity

European Research Projects

- **FIDIS** (FP6-ICT, 06-2009)
  Integrated approaches to research. Legal, socio-economic, usability and application requirements. Public architecture and specifications.

- **PRIMELIFE** (FP7-ICT, 06-2011)
  New concepts for privacy, prototype tools realizing the novel technologies developed by the project activity, studies about functionalities and security of IdMs.

- **GINI-SA** (FP7-ICT, 05-2012)
  White Paper on the establishment of an INDI Operator Market across the European Union. Individualized Digital Identity Model: a longer-term research and implementation roadmap towards a fully user-centric INDI ecosystem.

- **DIGIDEAS** (FP7-IDEAS-ERC, 09-2013)
  Increase the understanding of the social and ethical aspects of digital identity management, to contribute to the quality and social/ethical acceptability of technological developments.

- **FUTUREID** (FP7-ICT, 10-2015)
  Availability of a ubiquitously usable open source eID client that is capable of running on arbitrary desktop PCs, tablets and modern smartphones.

European Projects (ICT-PSP)

- STORK (ICT-PSP, 06-2011)
  Interoperability among countries participating in it. Pilot project about the Erasmus student mobility.

- SSEDIC (ICT-PSP, 12-2013)
  Identify the actions and the timetable for the Digital Agenda (DAE) and the successful launch of the European Large Scale Action (ELSA), as well as to provide a multi stakeholder planning resource to assist its implementation.

- STORK 2.0 (ICT-PSP, 04-2015)
  Contribute to the realization of a single European electronic identification and authentication area.

European eID solutions / Country level

Username-passwords
OTP via SMS

Soft Certificate
PKI Token

ABC Smart card

OTP Lists
OTP Token

PKI Smart card
PKI Mobile SIM card

A   Authentication only
S   Electronic Signature only
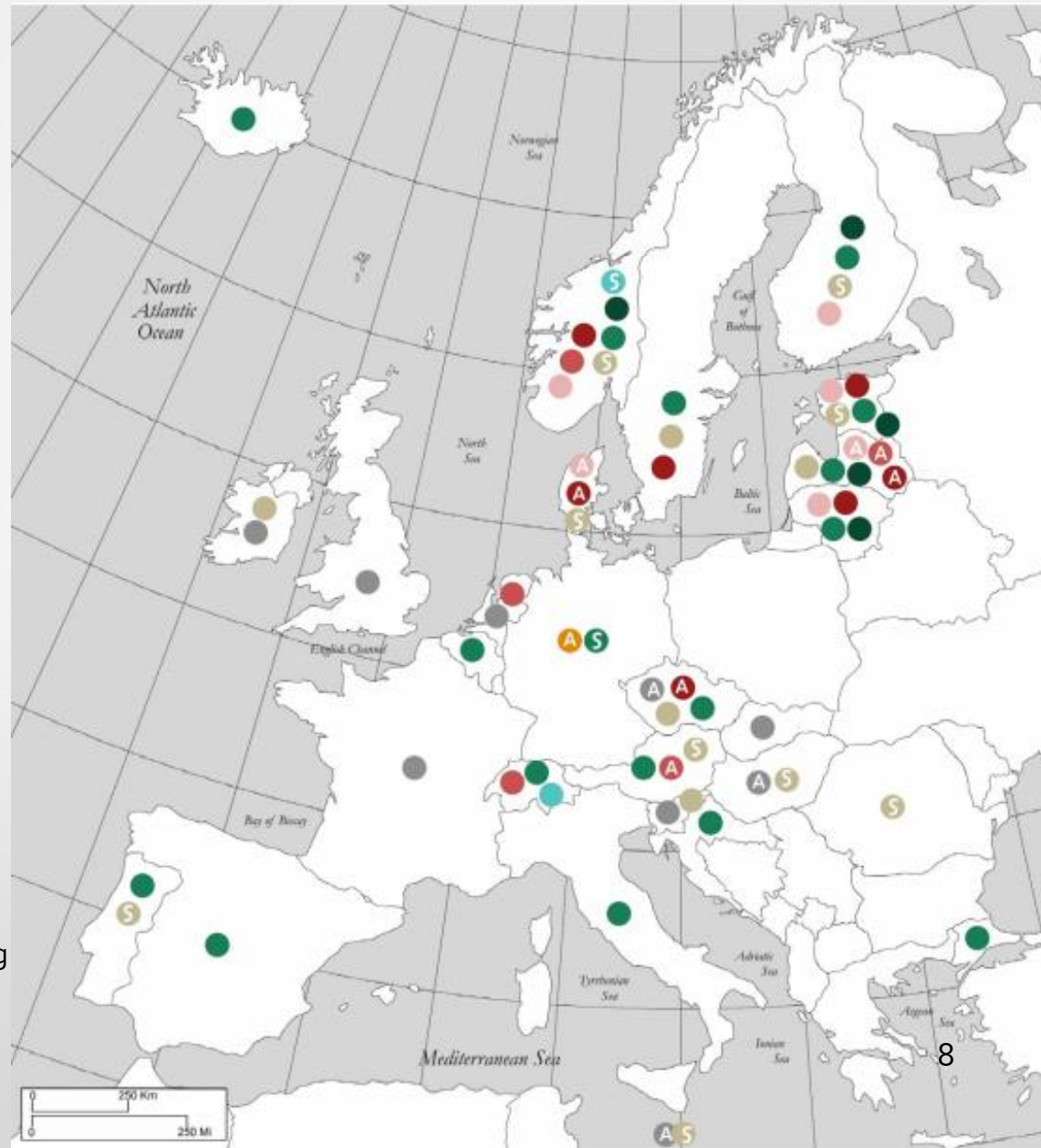
Electronic Identities in Europe - Overview of eID solutions connecting Citizens to Public Authorities. Iona Bour, Transaction Security (2013)

8

Enjoy My UniCam Project

The project allows

- Students
- Faculty staff
- Administrative staff

to have on a **single physical card** several functionalities related to:

- Facilitated banking account
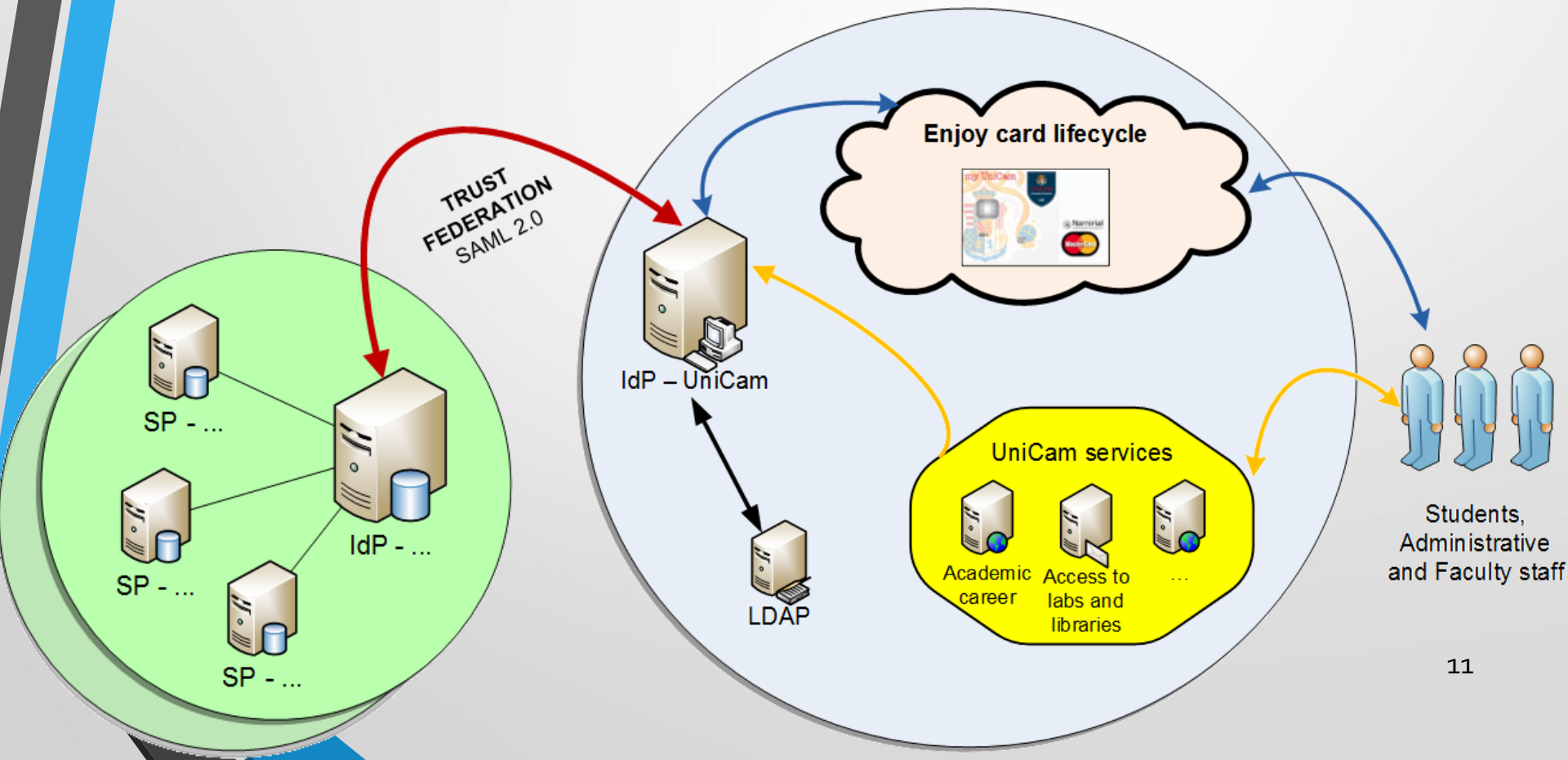- University services
- Digital signature

Enjoy My UniCam Project

Several issues have been addressed and solved, under different point of view

- Political → means of bringing IT innovation in UniCam

- Legal → adoption of the Italian Digital Administration Code

- Organisational → agreement regulating terms and conditions among stakeholders

- Technical → implementation of a new system, considering integration

Enjoy My UniCam Project

It is possible to establish a **federation** (based on SAML 2.0)
UniCam users can request the card and, then, they can be
taking advantages from a **trust relationship**, between UniCam
identified and **authenticated** with it
IdP and Idp of other organisations

Stakeholders

- **University of Camerino**
  → Manages and controls the whole distribution process of the card
  → Offers UniCam services

- **Italian Banking Group UBI**
  → Offers banking services

- **Namirial Certification Authority**
  → Manages digital certificates

- **Oberthur Technologies**
 → Releases and personalizes the card

Device

Card produced and commercialized by Oberthur Technologies™, with the following main features:

- It is compliant with the **IAS ECC** standard (Identification Authentication Signature European Citizen Card)

- It can be used in the following ways: **Contact**, **Full-Contactless** and **Dual**

- **Common Criteria** EAL5+ and the **FIPS** 140-2 level 3 certifications

Compliance with these standards are a prerequisite to preserve the legal value of the digital signature over the time.

System architecture

14
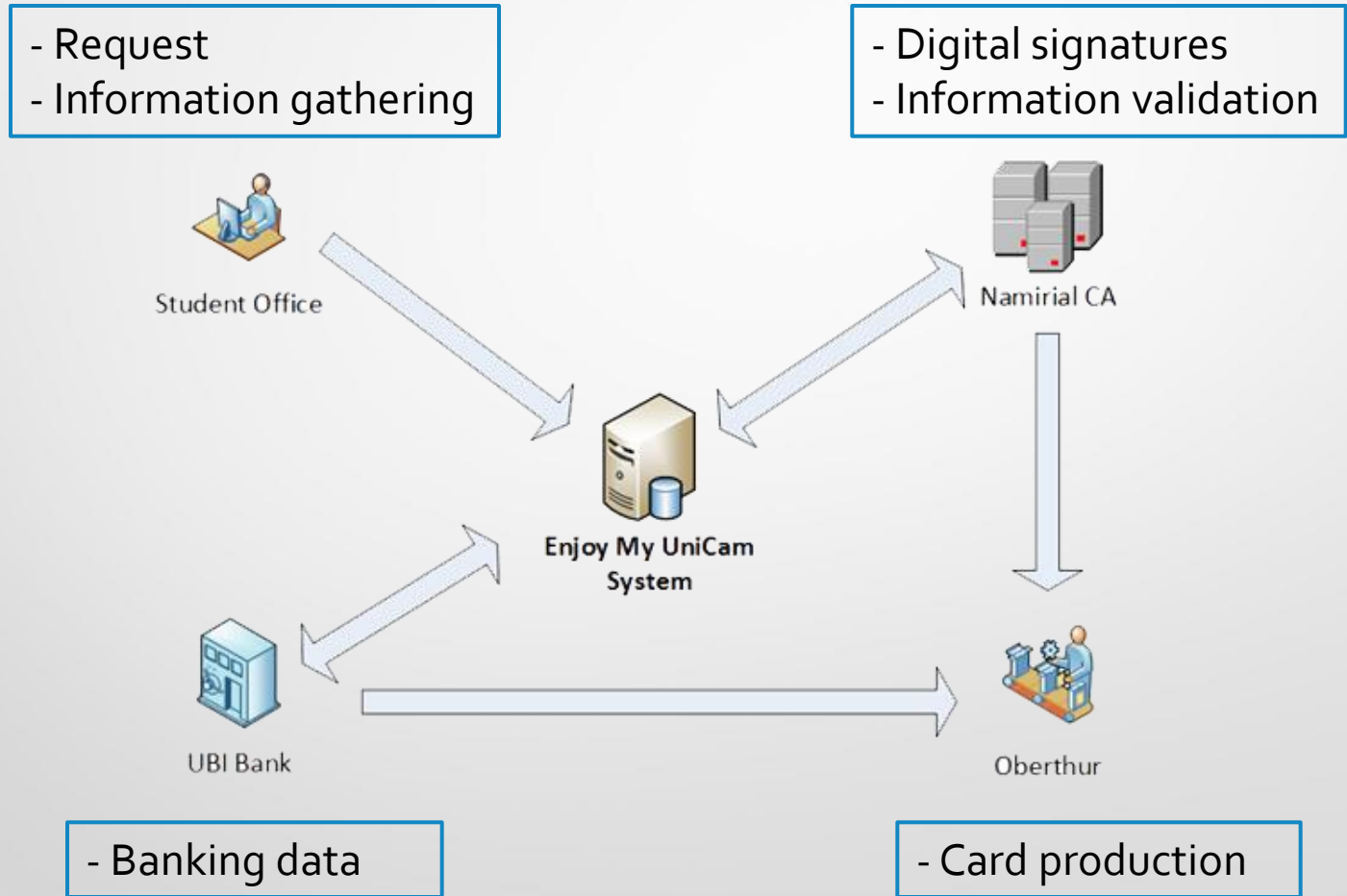
Supported services

- **Banking Services**
  - Prepaid card with an associated IBAN; valid for 5 years
  - Banking operations: pay with MasterCard™ circuit, send or receive transfers using home banking, pay bills, etc.

- **UniCam Services**

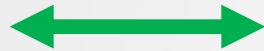 **Identification** in UniCam facilities →
  - Access to laboratories and libraries
  - Interact with the academic career
  - Require internships and thesis
  - Pay the meal at the canteen
  - Enrolment to university sports center

- **Digital Signatures**
  - Digitally sign documents with legal value
  - Fill some UniCam documents on the user pc and digitally sign it

IDEM

IDEM: Italian Federation of Authentication and Authorization Infrastructure (AAI) involving Institutions of the scientific and academic community

currently including
41 members +
20 partners

UniCam joined IDEM (April 2013)

using the card → services offered in IDEM
such as access to Wi-Fi networks, online libraries, e-learning and wiki platforms, subscriptions to scientific journals, etc.

16

Start-Up

	Total	Camerino	Ascoli Piceno
Required cards	327	305	22
Card delivered	261 (234 students - 27 staff)		

(September 2012-June 2013)

Conclusions

- In 21 months 2330 cards required
  (average waiting time of 15 days)

- "All-in-one" solution guarantying security, privacy and trust

- Remarkable simplification of the administrative paperwork

- Benefits from joying/creating Federations

- Novel services will be activated from UniCam aiming to build up a **smart campus**

Thank you!

Fabrizio Ippoliti

Computer Science Division
University of Camerino

fabrizio.ippoliti@unicam.it