

BioTrusT



A Multidimensional Approach for Biometric Identification Using BioAPI



Auto ID'02

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Agenda



- **TeleTrusT Deutschland e. V.**
Overview
- **BioTrusT Overview**
The Idea, Objectives
Organisation, Partners, Sponsors
Experiences, Summary
- **What did we learn**

TeleTrust Deutschland e.V.
Interoperability - Standards - Appropriate Security

BioTrust

Working Groups and Projects

For 1989 to Promote Privacy and Security

AG 5 Marketing

AG 3 Medical Appl.

AG 4 E-Commerce

KT Card Reader

AG 1 Legal Aspects

AG 6 Biometric Identifikation

Legal Framework

AG 7 PKI

Bridge CA

AG 8 MailTrust

AG 2 Chip Cards

- 100 members
- in the aim of
- an importance of the technology
- standardization
- collaborating with institutes and organizations in other countries

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BioTrust

The Idee

Many providers of different biometric systems try to get into the mass market

Many still open questions can only be answered after a sizeable mass test

Provider

TeleTrust

BMWi

S - Finanzgruppe

Research - Technology - Marketing

Operator

User

Consumer Advocate

Privacy Officer

Multidimensional Analysis

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BioTrust - Objectives

Support E - Commerce in Germany

- ◆ Proof of Confidentiality of Applications
- ◆ Acceptance by the User

Scientific Research

- ◆ Understanding the full scope of Biometric Systems in Use
- ◆ Development of Interfaces and Standards
- ◆ Evaluation of the Acceptance by the User
- ◆ Evaluation of Data Protection and Security Requirements
- ◆ Evaluation Consumer Protection Requirements

Lower the Market Entrance Barrier for (German) Biometric Systems

- ◆ Evaluation of Biometric Systems
- ◆ Drive for Innovation

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Partners



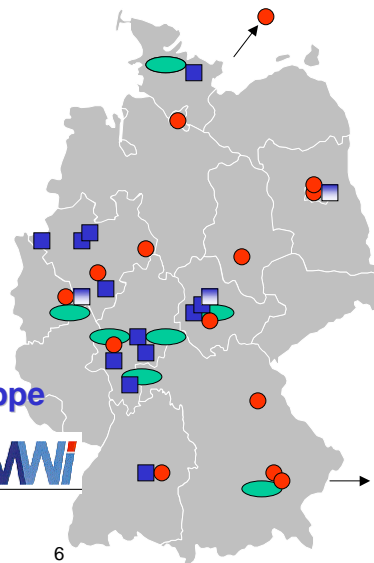
- BioTrust Pilot Sites: 12
- BioTrust Providers: 8/15
- BioTrust Research, Privacy Officer, Consumer Advocate, Interface Group, Consulting: 7
- BioTrust Sponsors: 3



- Finanzgruppe

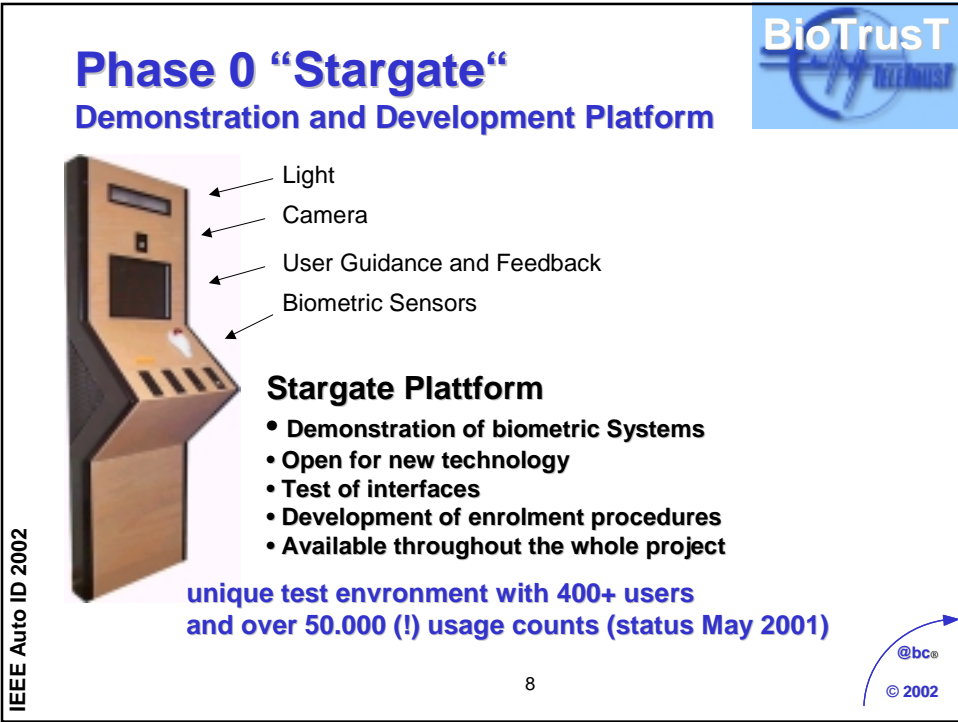
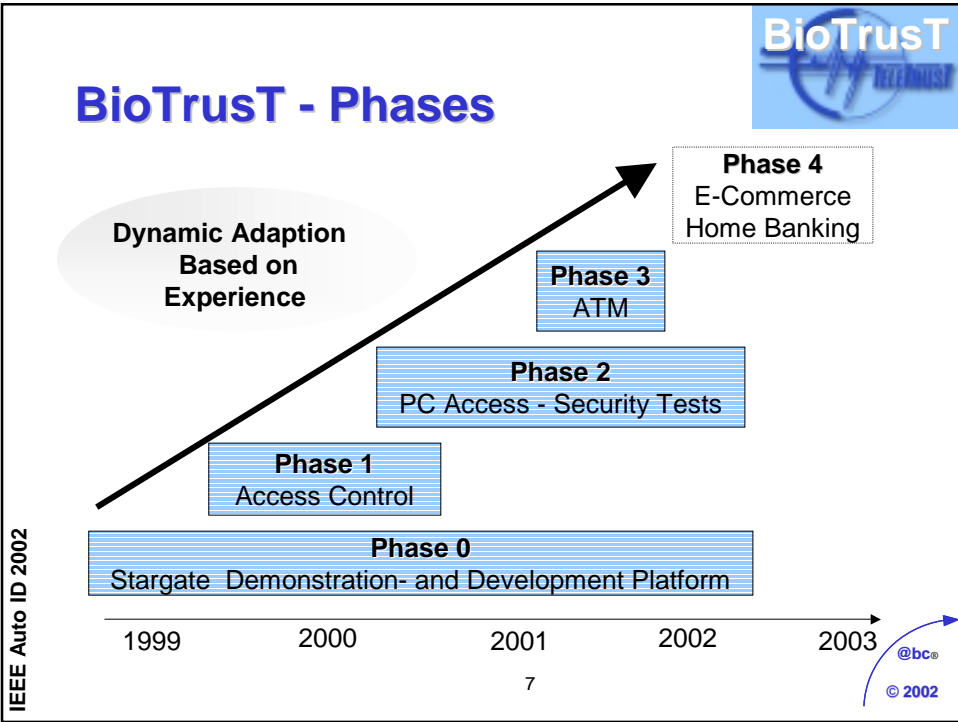


Bundesministerium für Wirtschaft und Technologie



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Phase 1

Access Control - Robustness Test

Face Recognition

ZN
Plettac

Informatik Kooperation
SKW

Fingererprint

Atair
Bergdata
G&D

SKW
Informatik Kooperation
DSV

Voice Recognition

ABS

Iris Recognition

SNI

Multimode

DCS

FH

German presentations available at
BioTrust website:
<http://biotrust.de/wsagenda.htm>
please click on the topic to get the full
presentation

Empiric study and scientific analysis by
Prof. Behrens and Prof. Roth FH Giessen-Friedberg

Recommendations by
• Consumer Advocate, AgV
• Privacy Advocate/Data Protection, ULD



Phase 2

PC Access - Security Test

Objective

- Development of a Standard Interface (BioAPI)
- Test of Multiple Biometric Systems
- Development of a Scheme to Capture and Analyse User Behavior
- Store Templates on the PC and on a Personal Device
- 3 Test Series
 - BioAPI 1.0 Templates on the local PC
 - BioAPI 1.1 Templates on the local PC
 - BioAPI 1.1 Templates on a smart card

•BioAPI Implementations

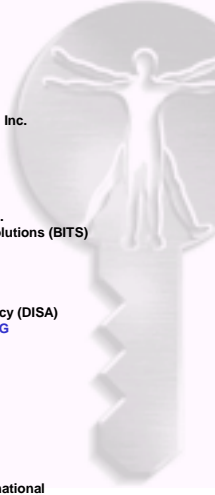
Fingerprint:	Dermalog, Ikendi
Signature:	Softpro, Wondernet/Dr. Fehr
Iris Recognition:	Iridian, SD Industries
Multimode:	BioID
Applications:	Omnikey, Utimaco





BioAPI Consortium Members

Acscs Biometrics USA, INC.
 Ambition Global Co., Ltd.
 Ankari
 Authentec
 Barclays Bank
 Bergdata USA, Inc.
 BioFinger Tech. Corp.
 BioLink Technologies International, Inc.
 Biometric Identification Inc.
 Biometric Verification, Inc.
 Biometrics.co.za
 Biometrix
 BioNetrix
 BioPassword Security Systems, Inc.
 Business Integrated Technology Solutions (BITS)
 Compaq *
 Configate Ltd.
 Cyberlink Systems
 Datastrip, Inc.
 Defense Information Systems Agency (DISA)
 Dialog Communications Systems AG
 Digital Persona
 eCryp, Inc.
 Ethenica
 eTrue
 Fidelica Microsystems, Inc.
 Fingerprint Cards AB
 Gemplus
 HP
 Hunno Technologies Inc.
 Identification and Verification International
 Identification Systems DERMALOG GMBH

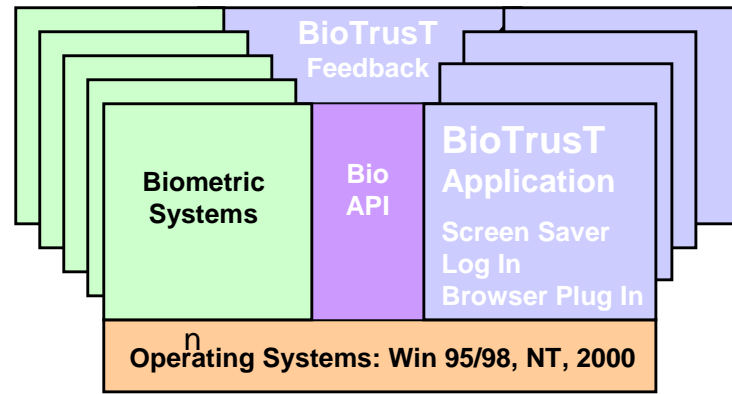


Identix
 Image Computing Incorporated (ICI)
 Infineon Technologies (formerly Siemens)
 Intel Corporation *
 I/O Software, Inc.
 Iridian Technologies *
 ISC/US Inc.
 ITT
 J. Markowitz Consulting
 Janus Associates
 Kaiser Permanente
 Keyware Technologies
 LCI SmartPen n.v.
 Leading Edge Security Ltd.
 Locus Dialogue
 Logico Smartcard Solutions GMBH
 Mixaxis Biometrics Co.
 Mytec Technologies *
 Nanyang Technological University, Centre for Signal Processing
 National Biometrics Test Center
 NIST *
 National Security Agency (NSA)
 NEC Corporation
 Neurodynamics
 OKI
 Omnikey
 Precise Biometrics
 Presideo
 Raytheon
 Recognition Systems
 SAFLink *
 * Mitglieder des Steering Committee

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Phase 2 PC Access - Security Test

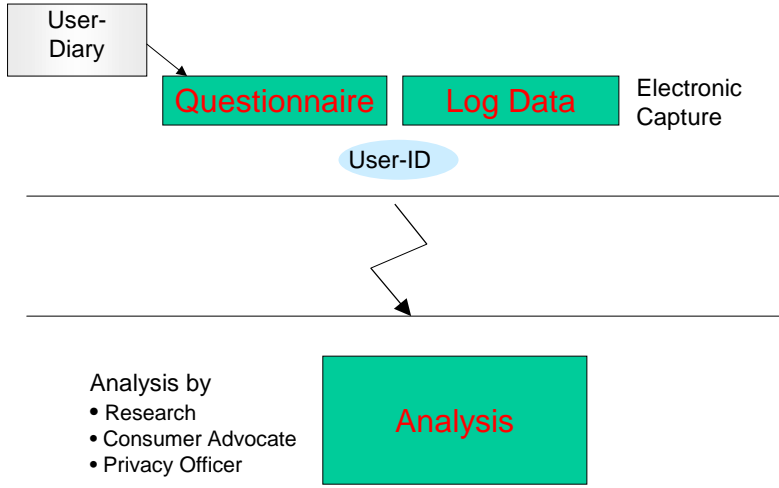


Separation Biometric System <-> Application

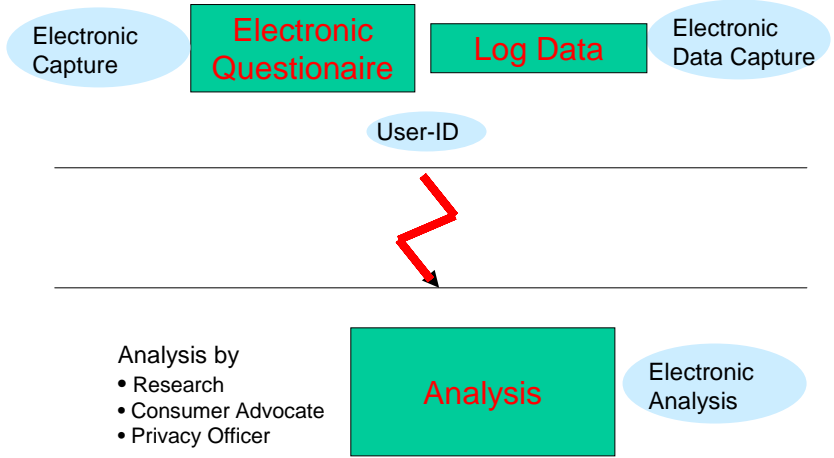
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Analysis Scheme



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Phase 2 Recent Achievements



BioAPI Implementation

multiple platforms, multiple biometric systems
Pre requisite for major RFPs Like for the DOD/USA

BioAPI applications

Log-In, Screen Saver, Plug-Ins
Implementation by providers of biometric solutions

Cooperative Testing of (complex) Interfaces

Electronic questionnaire system for distributed users

**Submissions to international standardization bodies
(e. g. submission of CBEFF to NIST)**

**Cooperation with BioAPI Consortium and
International Biometric Industry Association (IBIA)**

Other international organizations (EU, EU countries)

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Standardization for Smart Cards and BioAPI



NISTIR 6529

Common Biometric Exchange File Format (**CBEFF**) V1.0 (01/01/03) data

- Standard Biometric Header (**SBH**)
- Biometric Specific Memory Block (**BSMB**) for the biometric data
- Signature Block (signature or MAC for protection of preceding data)

SBH can describe e.g.

- biometric type (fingerprint, face recognition, ...)
- format owner (identifier assigned by IBIA [5])
- format type as defined by format owner

usable with the BioAPI

ISO/IEC 7816-11

personal verification through biometric methods

(current status: 2nd Committee Draft)

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Phase 3

Evaluation of the ATM Environment

Objective

Evaluation of the requirements for biometric identification as replacement of the PIN

- **Banking specific aspects**
- **Consumer Advocate's aspects**
- **Privacy Officer's aspects**
- **General guidelines**

Summary

Project Organization > A Learning Project

- ♦ Dynamic Adaption Based on Project Progress
- ♦ Challenge: Priority Management of Project Partners
- ♦ Standard Interface Based on BioAPI
- ♦ Analysis Scheme and Tools for a Mass Test
- ♦ Significant International Recognition

Joint Working Groups > Unique Skills

- ♦ Consumer Advocate - Privacy Advocate - Research
- ♦ Jointly Developed Questionnaires for Users, Providers, Operators
- ♦ Analysis and Recommendations Individually

Scheme to Evaluate Biometric Security in Cooperation

- ♦ BSI, Dt. Telekom, BKA, BioTrust,

Workshop Presentations Available on the Website

- ♦ <http://biotrust.de/ws020328.htm> (Workshop March 28, 2002)
- ♦ <http://biotrust.de/ws050601.htm> (Workshop June 5, 2001)
- ♦ <http://biotrust.de/wsagenda.htm> (Workshop May 3, 2000)

What did we learn - I

Biometric recognition methods

What happens if lab results are subjected to real life environments
Difficulty to achieve FRRs and FARs in real life

Reference data – template

How are templates stored
- on a server or the local PC
- on a personal secure device (smart card, ITSEC E4 high)

100% recognition – impossible

Decisions to use biometrics for PC access
Management decisions within larger organizations

Problems

How to handle problematic users
There was always at least one person...

What did we learn - II

Stability of the methods

User surveys show the demand for robust procedures
usable in everyday life.

Privacy and consumer protection

Recommendations were developed, within BioTrust, to prevent misuse

Which applications can be enhanced with biometric identification

How to manage cost
Is there a business case

What needs to be done

Standards are essential
Large test beds are needed to validate assumptions and cost savings claims



Thank You for Your Attention



<http://atbc.de> <http://biotrust.de> <http://4trust.de>

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