WP3 Unimodal Systems

UMAN
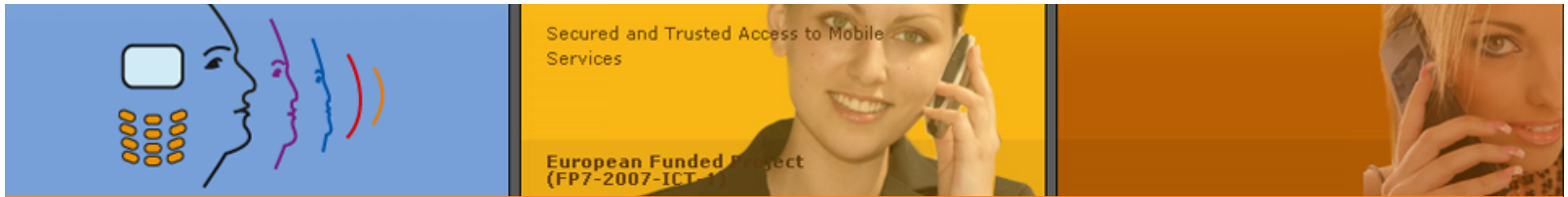
Deliverables

- D3.1 Baseline system (complete)

- D3.2 Baseline evaluation (complete)

- D3.3 Advanced system (complete)

- D3.4 Advanced evaluation (due 31/10/08)
  - Resp. UOULU
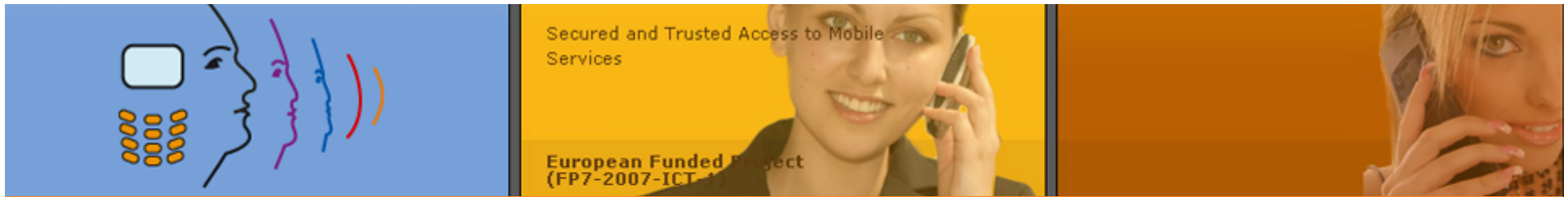
Research activity: IDIAP

- Advanced face localization

- Advanced face authentication

- Bayesian networks to combine intensity and colour information in face recognition

- Parts-based face recognition using local frequency bands
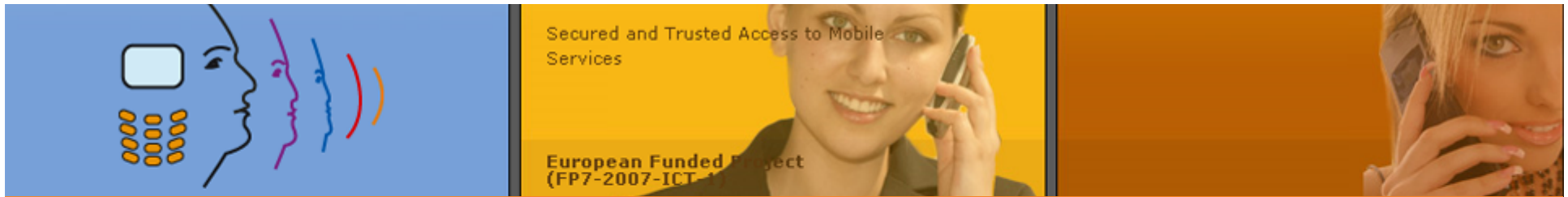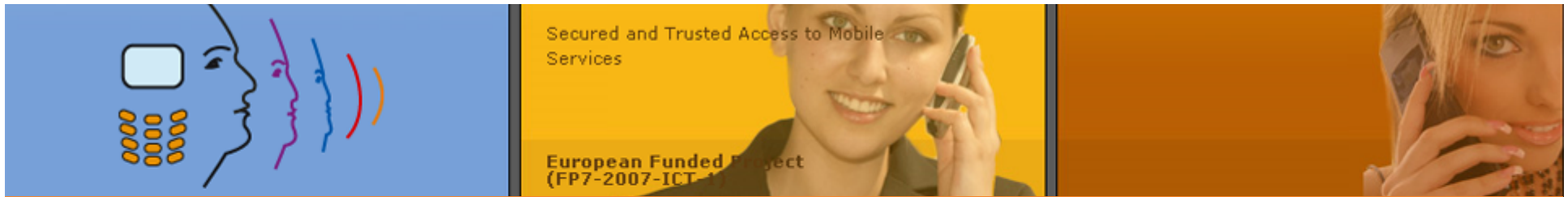
Research activity: UMAN

- Combined global/local model for feature localization

- Face normalization

- Optimal MRF (local model) structure

- Appearance models for feature localization

- Exploiting facial dynamics for efficient feature tracking
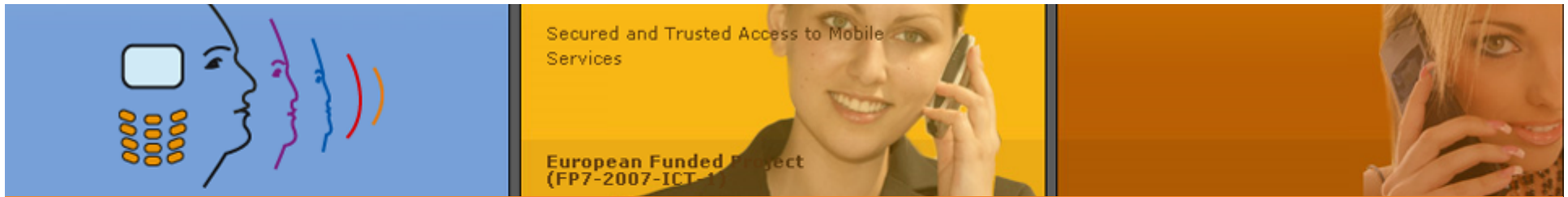
Research activity: UNIS

- Advanced face authentication

- User assistance in biometric trait acquisition

- Mechanism to counter spoof attack

- Cohort-based score normalization

- Measuring the extent of Doddington's menagerie

Research activity: UOULU

- Advanced face detection using local phase

- Pixelwise local binary pattern models of faces using kernel density estimation

- Rotation invariant image description with LBP histogram Fourier features

- Spatiotemporal face analysis

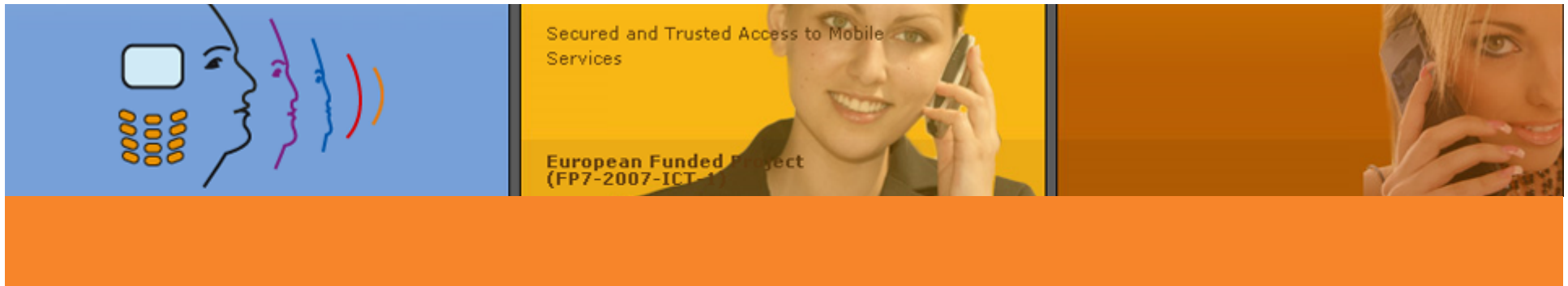- Manifold learning for face and gender recognition
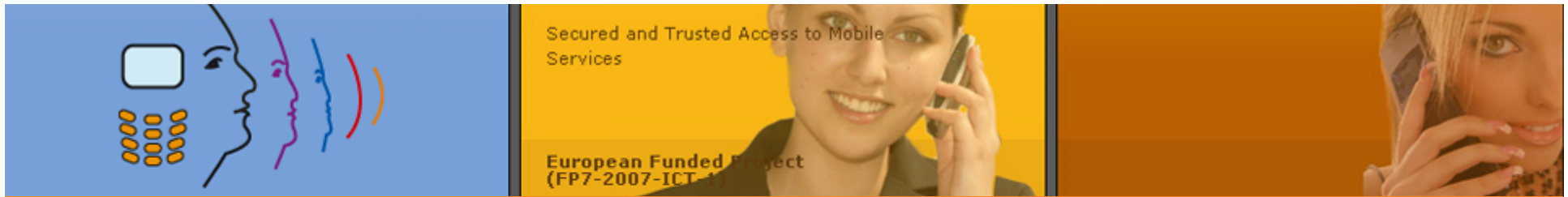
Research activity: UAPV

- **Factor Analysis** for:
  - **spk reco** / **language reco** [Verdet09] / speech reco / video genre reco [Rouvier09]

- Binary keys for compact representation of both audio and video (*preliminary work*)

- **Research related to embedded environment**:
  - « Reinforced temporal structure of acoustic models for speaker recognition »
  - « Compact acoustic models for embedded speech recognition » [Levy09/10]
  - « Short utterance-based video aided speaker recognition » [Larcher08]
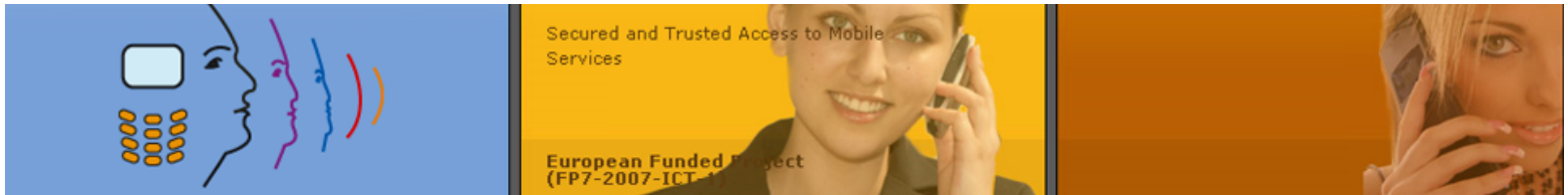
Research activity: BUT

- Joint Factor Analysis – investigation into theory and applications of intersession variability compensation [Burget2009]
- Fast scoring (based on JFA) [Glembek2009]
- Discriminative formulation of the speaker recognition task – JHU 2008 workshop, [Hubeika2009]
- Investigation into score normalization, especially with limited numbers of speakers (D3.3)
- Related areas building up on the know-how on how to reduce the intersession variability
  - Language recognition – channel-compensated features, etc., NIST 2009, [Brummer2009]
  - Emotion detection – Interspeech 2009 emotion detection challenge [Kockmann2009]
  - Sub-space models for acoustic modeling in speech recognition – inspiration from JFA – JHU 2008 workshop [Povey2009, Burget2009, …]

Thank you for your attention