

LEAPFROG

Leadership for European Apparel Production From Research along Original Guidelines

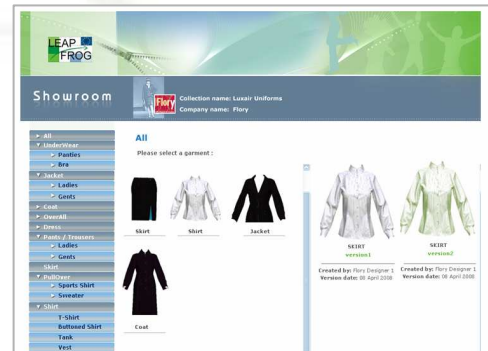
An Integrated Project supported by the European Commission 6th Framework Programme

Objectives

The goal of **LEAPFROG** is to achieve a step change in productivity and competitiveness of Europe's clothing industry and to decrease its dependence on the labour cost factor.

LEAPFROG, led by Euratex, is a research and innovation initiative of the European Textile and Clothing Industry and which brings together a critical mass of the sector companies and research centres. It aims at a technology breakthrough in the clothing industry by researching on new materials, technologies and processes enabling:

- **innovative fabric preparation,**
- **automated garment manufacturing,**
- **3D virtual garment prototyping,** and
- a high **quality (of) partnership** of networking companies.



Clothing production in Europe suffers from high **labour costs** in garments manufacturing which makes this activity largely uncompetitive in high-labour cost countries.

Design and prototyping of garments today remains much too **time** and cost intensive with its craft-like organisation; likewise lengthy trial and error procedures and inefficient means of communications often hamper full competitiveness.

Spread inefficiencies in the overall **organisation** of the clothing business and the complexity of the supply chain lead to frequent overstock as well as out-of-stock situations, which determinate enormous missed business opportunities.

To overcome these problems **LEAPFROG** researches in 4 areas:

- (1) **Innovative Fabrics:** Exploring applications of permanent /temporary stiffening of fabrics and new fabrics-processing techniques.
- (2) **Automation of Garment Manufacturing:** automating the garment assembling by innovative fast and highly re-configurable robotic devices (multi-points grippers, re-configurable mannequins, sewing operations) with as yet unforeseen dexterity, cooperation ability and efficiency in handling and working with limp material.
- (3) **Virtual Garment Prototyping:** to revolutionise garments design and prototyping by developing 3D Virtual Prototyping infrastructures, reducing the number of fabrics physical prototypes, shortening company-time to develop a new collection, efficient cost estimations from sketch drawing to pattern making.
- (4) **New Quality of Partnership:** the new concept of the *extended Smart Garment Organisation (xSGO)* to improve design and operation of all (business and production) activities in networking garment organisations which cover all life cycle stages (design, development, production, distribution including logistics).

At a Glance

Project: LEAPFROG

Leadership for European Apparel Production From Research along Original Guidelines.

Project Coordinator:

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Project URL: www.leapfrog-eu.org

Partners: 35 partners from 11 European countries; 11 of them being Textile and Clothing Industry

Duration: May 2005 – April 2009

Total Cost: 24 M€ (funding 14M€)

Programme: FP6: NMP

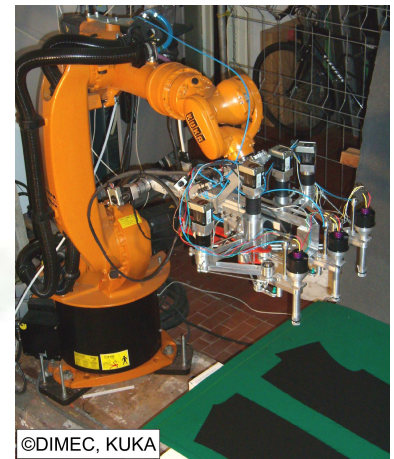
Instrument: Integrated Project

Contract Number: NMP2-CT-2005-515 810

All activities are performed in **close cooperation with the Industry**. Several pilot applications and demonstrators are set up to prove and test the functionality and the benefit of the innovations.

Early Results

- (1) **Innovative Fabrics:** fabric samples tested, towards simplification of the manufacturing process.
- (2) **Automation of Garment Manufacturing:** Components developed and tested: automatic grasping device, reconfigurable hanger, adjustable mould, reconfigurable mould table, automatic handling system.
- (3) The **Collaborative Virtual Prototyping Platform** including morphotype library, fabric library, manufacturability and costs estimation, comprehensive 2D – 3D design, simulation and animation tools
- (4) A **New Quality Partnership:** enabled by new concepts and tools for: quality management, knowledge exchange in networks, colour communication and product tracing & tracking together with RFID technologies. A new modelling method for re-engineering of networking business processes complete the results.



Results transfer to the industry is a project priority address through demonstrators, pilot applications and commercial agreements. In mid 2008, the strong industrial interest has lead to 10 pilot applications set up.

European Companies interested in LEAPFROG results exploitation can join the Association for Advancement and Dissemination of Leapfrog Technology (**AADLT**) to be updated on project progress or to participate as active partner in demonstration and training activities.

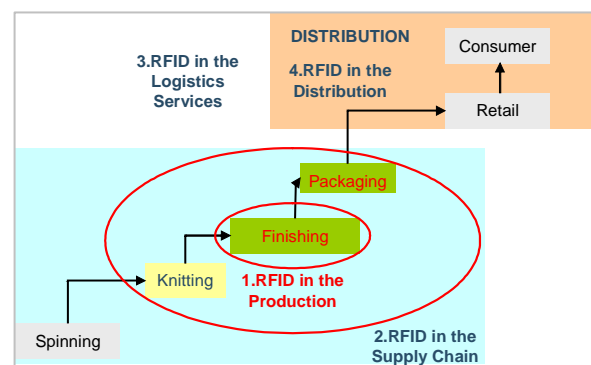
LEAPFROG detail, FOCUS ON: RFID Application in Textile and Clothing Industry

LEAPFROG addresses areas for RFID application in the T/C industry as: textile and garment production, logistics in the textile supply chain and in the distribution to retail and consumers.

The RFID tags:

- have to survive the whole production process for textiles and garments, in particular the chemical, thermal and mechanical finishing processes, and shall be
- integrated into the brand label for retail and anti counterfeiting purposes.

The objective is to prove the feasibility and the potential benefit of the application of (existing) RFID technologies in industrial production, logistics and business processes. First tests results with commercial available RFID tags in the textile finishing processes have proved to be successful.



Further Information

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