



Dipartimento Integrato Interistituzionale
DIPINT



Primo Workshop

Clinical Research and Innovation

Venerdì 4 luglio 2014 9.00 - 19.00

Aula Magna - Polo Fibonacci - Largo Pontecorvo 3, Pisa

Dipartimento di Ricerca Traslationale e delle Nuove Tecnologie in Medicina e Chirurgia

U.O. Ortopedia e Traumatologia II

Direttore Prof G.Guido

When INnovation makes Shoes

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WIN-Shoes INNOVATION :
recognized as the best technical
proposal by RT



BANDO UNICO R&S, year 2012

1° classified



Partner :



Subcontractor :



Talking about this kind of shoes...



- High Heel (very..)
- Fashion and Luxury
- Completely Handmade
- Completely Made in (Italy) Tuscany



WIN-Shoes PRODUCTS:

**Virtual prototyping
Digital manufacturing
Process and product control**



**Riduction of:
Time to market
Costs**

WIN-Shoes product will lead companies to

- improve their competitive capacity
- reduction of costs and time of design and production of every single collection
- improving quality of manufactured products, which will be optimized with respect to
 - Technological parameters
 - Structure
 - Comfort
 - Price



WIN-Shoes INNOVATION

Technology improving:

Software platform for the design of prototype shoes

tested by a Virtual model capable of expressing...

COMFORT





How to express comfort?



SUBJECTIVE
FEELINGS

Our role

DATA COLLECTION:

OBJECTIVE AND SUBJECTIVE DATA TO QUANTIFY FEELINGS
ABOUT SHOES' COMFORT:

TWO STEPS

- EXTENDED PANEL: 300 HEALTHY VOLUNTEERS
- LIMITED PANEL: 15 HEALTHY VOLUNTEERS



OBJECTIFIED
EXPRESSIONS

Software Platform

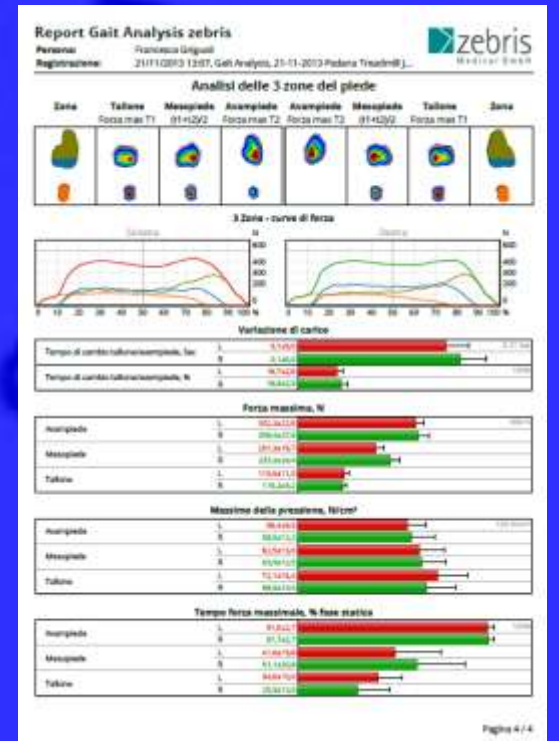
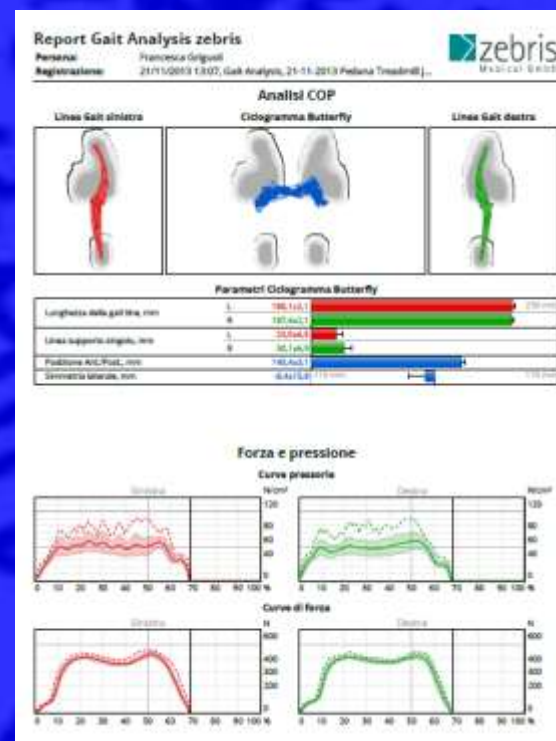
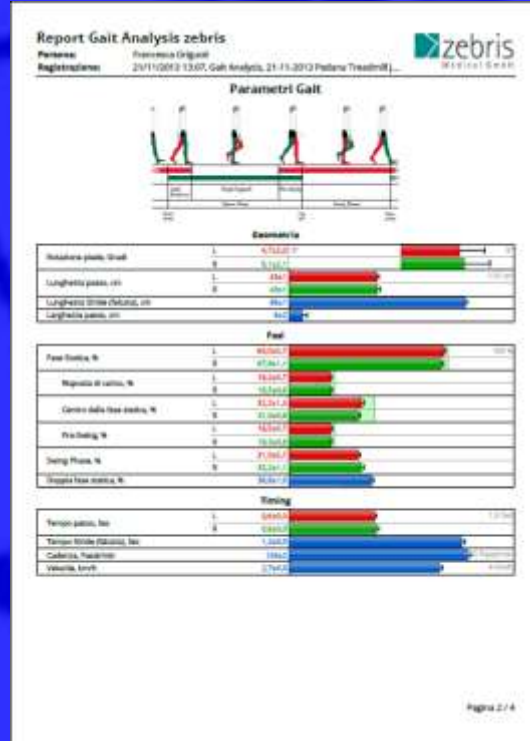
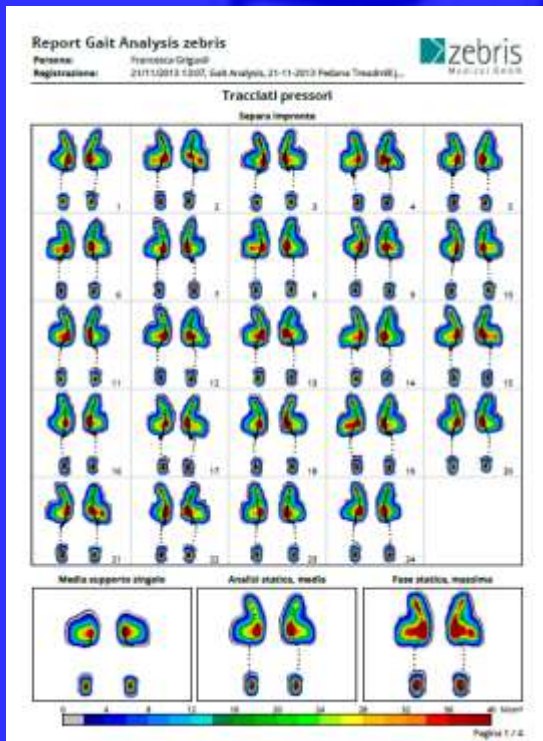
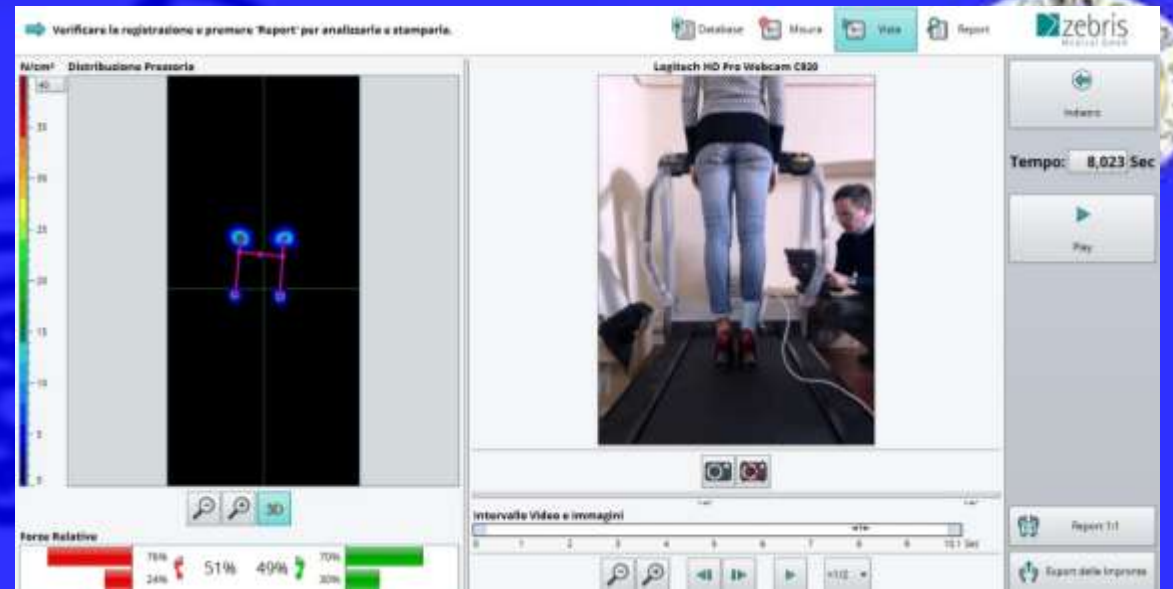
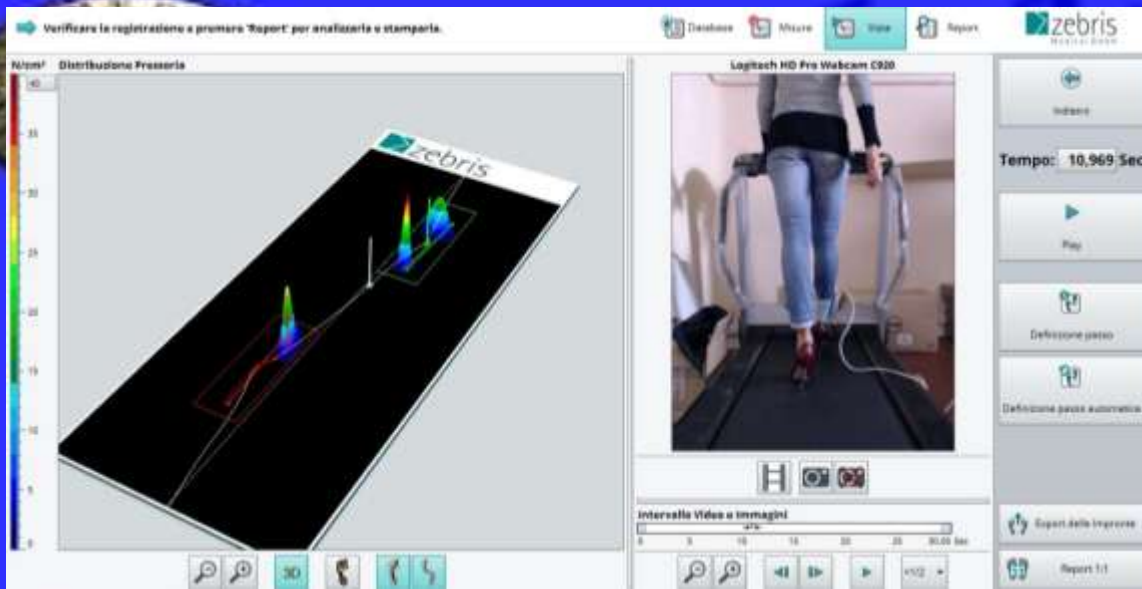
Virtual Model



Step ONE, Extended Panel: 300 Women

From subjective to objective: how do you (and your feet) feel while you are wearing this type of shoes?

- Orthopedic and Podiatry evaluation (Morphological & Patological Data)
- Shoes Walk Test:
 - Zebris sensorized treadmill Gait Analysis
 - Tekscan F-Scan (SSSUP Robotic Lab)
- Wearing Shoes Survey
 - 5 days for every shoe model tested (5 default models)





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PROGETTO cofinanziato dalla Regione Toscana nell'ambito del Bando Unico R&S 2012
"Aiuti alle imprese per investimenti in materia di ricerca industriale e sviluppo sperimentale"

When INnovation makes Shoes

IDEA ALLA BASE DEL PROGETTO



Step TWO, Limited Panel: 15 Women



From Objective to Subjective: If i modify this shoes in that way you (and your feet) will feel...

- 15 women (enrolled in step ONE) with the most represented feet and who are get used to high-heel shoes
- 7 shoes model variation (same shape, different materials)
- Instrumental test
- Wearing survey



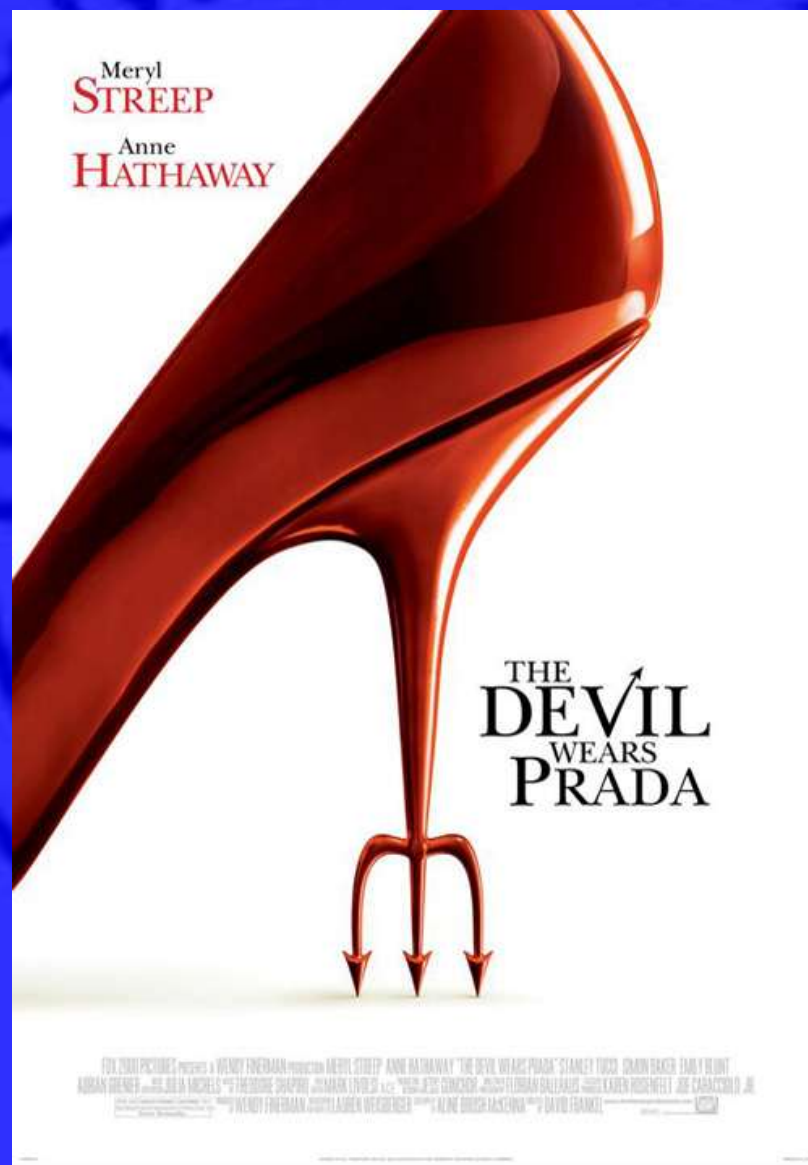
Project and data collection progress

- 240 women completed the orthopedic and podiatric assessment and are testing the shoes
- More than 3000 instrumental tests with Zebris treadmill and F-scan
- September 2014: end of data collection, Step 1&2
- Results at the moment are undisclosed due to Confidentiality Agreement



Clinical Impact

- Morphological and fisiopathological data collection in “healty” woman
- In depth biomechanical analysis of Wearing diferent hight heeled shoes
- Contribution to “modify” comfort and reduce damage caused by high heels...



Thank You!