





### Delivery Systems: Indulging our skin when and where it is needed most

Dr. Natascia Grimaldi ngrimaldi@infinitec.es

Advances in Anti-ageing for Skin London, September 18<sup>th</sup>



#### **CONSUMER DEMANDS AT A GLANCE**



From "hope in a jar"



To "real effect in a jar"

Perceivable results + optimal sensory attributes + affordable formulations

...the secret is to get to the right place at the right time...



#### THE RATIONALE BEHIND

## Novel delivery systems are the scientific answer

... to get to the right place at the right time...



Cartoon of an active loaded/conjugated to a novel delivery system

- + enhanced penetration
- + targeted release
- + improved stability
- + improved efficacy
- + improved tolerance
- .... and so on [1]

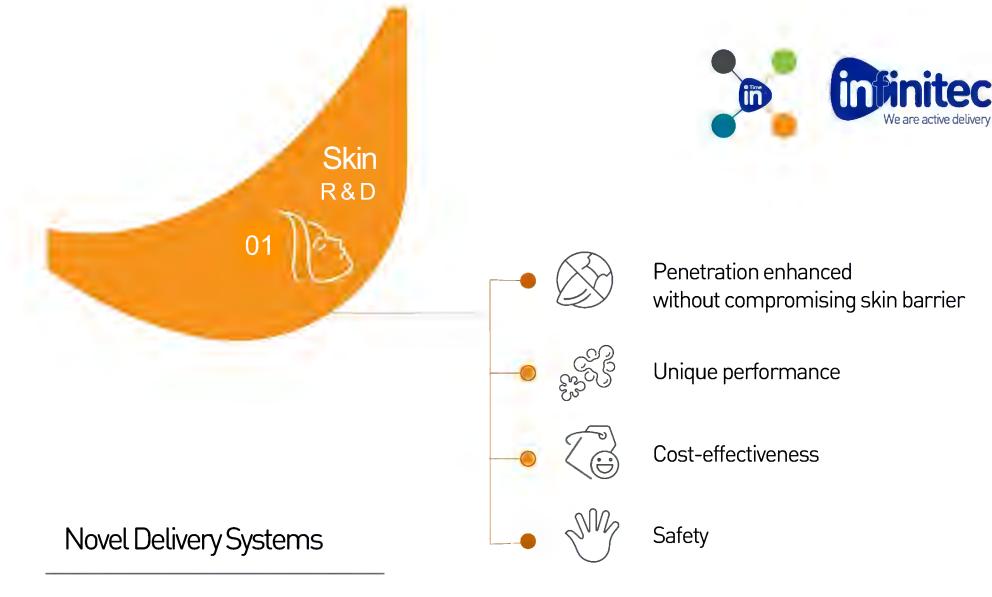




#### **CONNECT THE ELEMENTS FOR SUCCESS**

Novel delivery systems are the scientific answer not only for consumer demand, also to tackle issues related to...





Get to the right place, at the right time







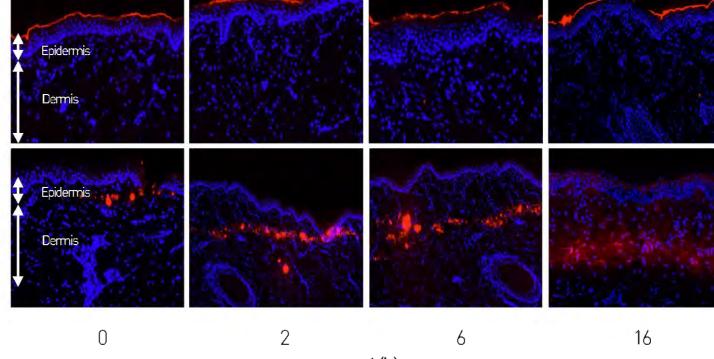




Penetration of free active vs. encapsulated active

**FREEACTIVE** 

ENCAPSULATED ACTIVE



t (h)

(Images: Optical microscopy. Pig skin slices)

#### SKIN

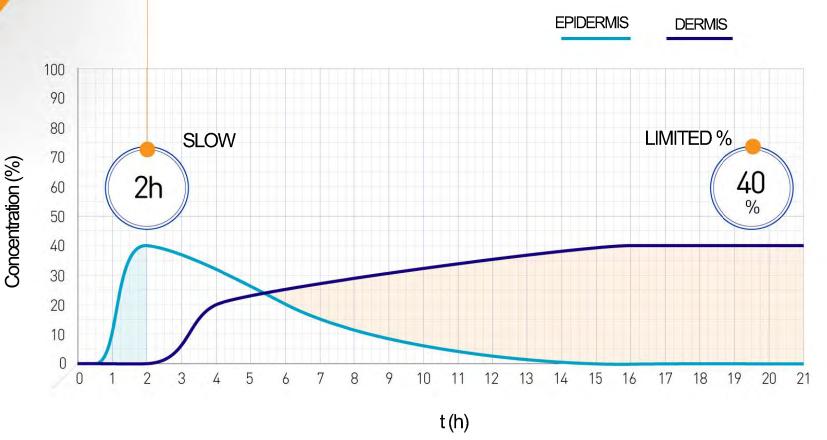




## PENETRATION BOOSTERS WITHOUT COMPROMISING SKIN BARRIER



Skin penetration profile of a traditional delivery system (liposome)



(Chart: Pig skin in Franz cell apparatus)

100

#### SKIN

#### PENETRATION BOOSTERS WITHOUT COMPROMISING SKIN BARRIER





**EPIDERMIS** 

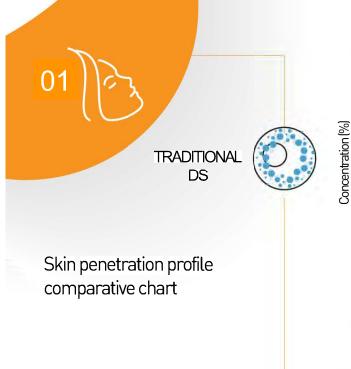
**DERMIS** 

40

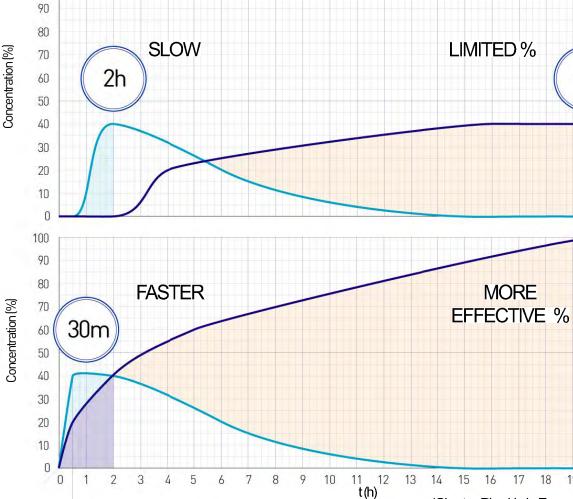
100

18

(Charts: Pig skin in Franz cell apparatus)



**NOVELDS** 



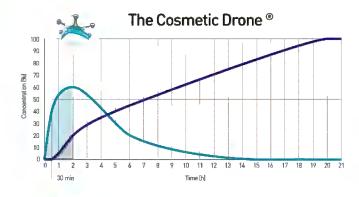


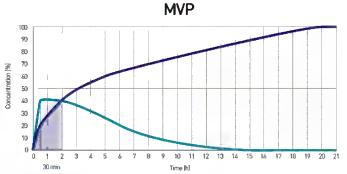
#### SKIN



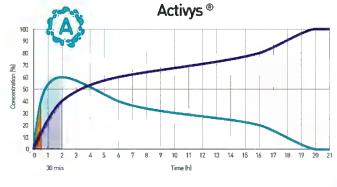


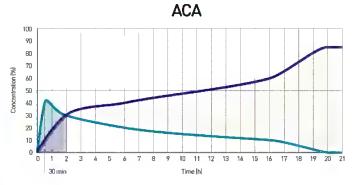
#### A DS PLATFORM FOR EACH COSMETIC APPLICATION

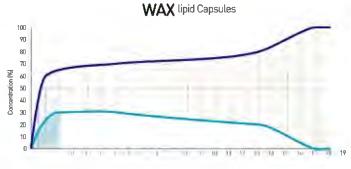


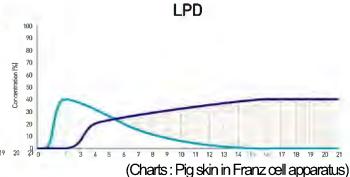


By playing with *materials* & *technologies*, we can generate different DS platforms, showing different penetration profiles!









#### SKIN



# UNIQUE PERFORMANCE IN ANTI-AGEING MVPs (Most Valuable Peptides): Precious Metal + Peptide

**PROLONGED LIFE IN DERMIS** 

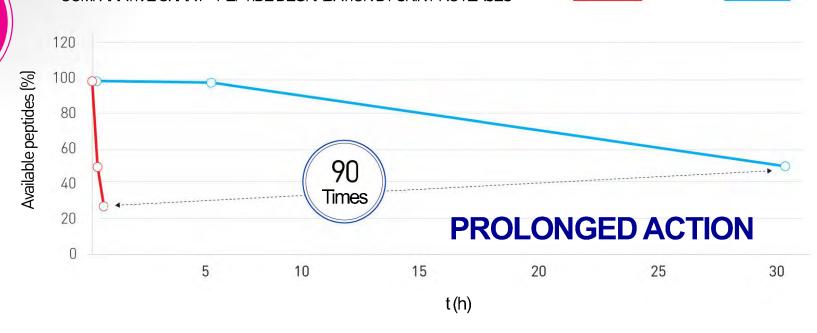


Novel delivery systems extend the anti-ageing active ingredient's life in skin from 30min to 30hours

INFINITEC'S EXCLUSIVE

COMPARATIVE CHART-PEPTIDE DEGRADATION BY SKIN PROTEASES





(Chart: in vitro study. MVP technology)



POLYMER CAPSULE + ACTIVE

Keratinocyte

Fibroblast

Adipocyte

Melanocytes

Skin barrier function

Anti-wrinkle

Anti-cellulite

Slimming

Whitening UV-induced

pigmentation

Expression lines

Glowing Hyaluronic Acid

# DERMIS CELL-TARGETED + SYNERGIC EFFECT ACTIVE+ LIGAND

TARGETING LIGAND

THE COSMETIC DRONE®

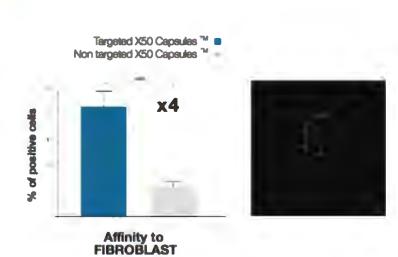


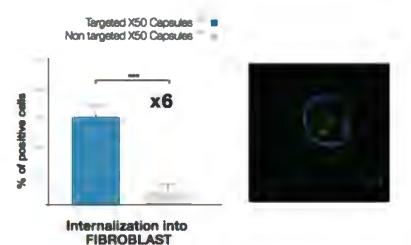
Infinitec introduces Cosmetic Drones



#### SKIN

## UNIQUE PERFORMANCE IN ANTI-AGEING DERMIS CELL-TARGETED NOT A FICTION!

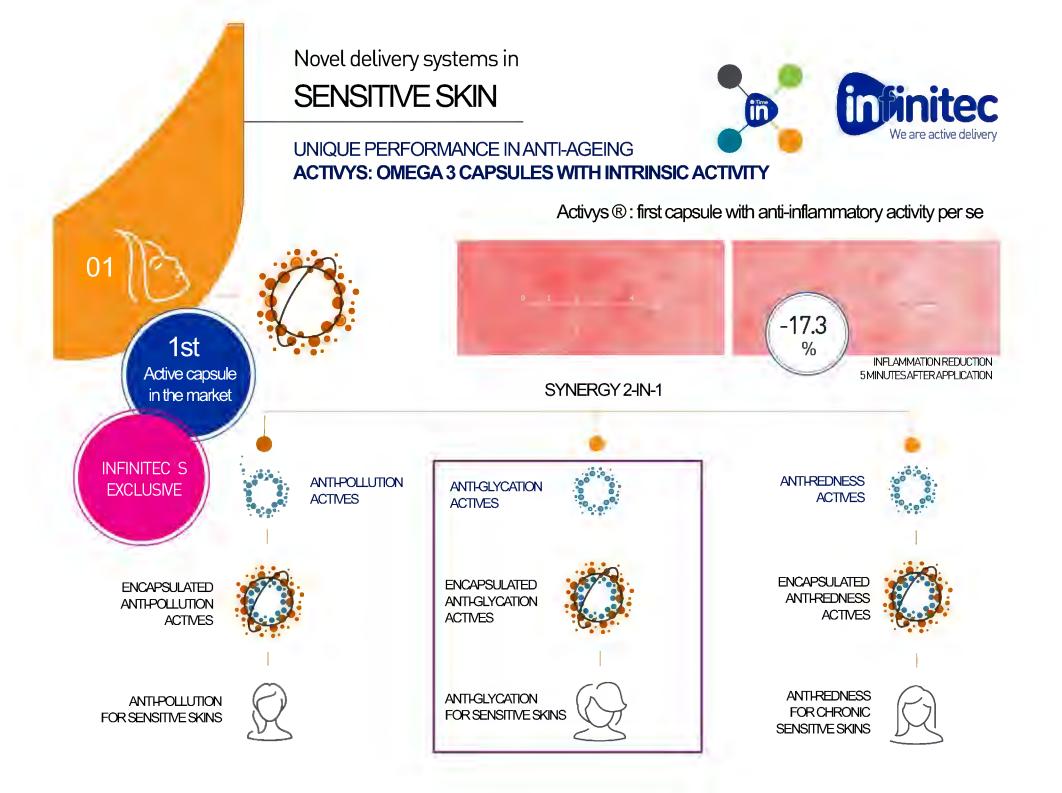


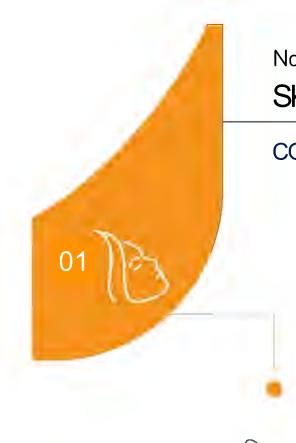












SKIN

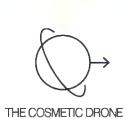
**COST-EFFICIENCY** 





THE MAXIMUM BENEFIT WITH LOWER DOSE









ACTIVE PROTECTION
AND STABILITY IN FORMULA:

ZERO WASTE

DELIVERY AT THE DESIRED PLACE (TARGET):

ZERO WASTE

SYNERGIES CARRIER - ACTIVE

2-IN-1 SOLUTIONS

PROLONGED ACTION







#### DELIVERING ACTIVES INTO THE SKIN IN A SAFE MANNER









PENETRATION CONTROL:

CONTROLLED RELEASE

PARTICLE SIZE CONTROL

NO SYSTEMIC ACTION

**SKINTOLERANCE** 

WITH SUSTAINED RELEASE

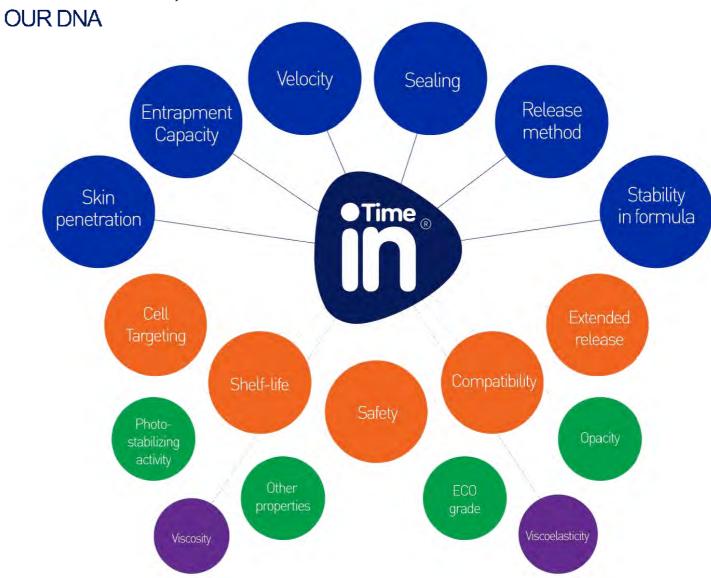
BIOCOMPATIBLE BIODEGRADABLE FDA APPROVED



#### SKIN



OUR EXPERTISE,

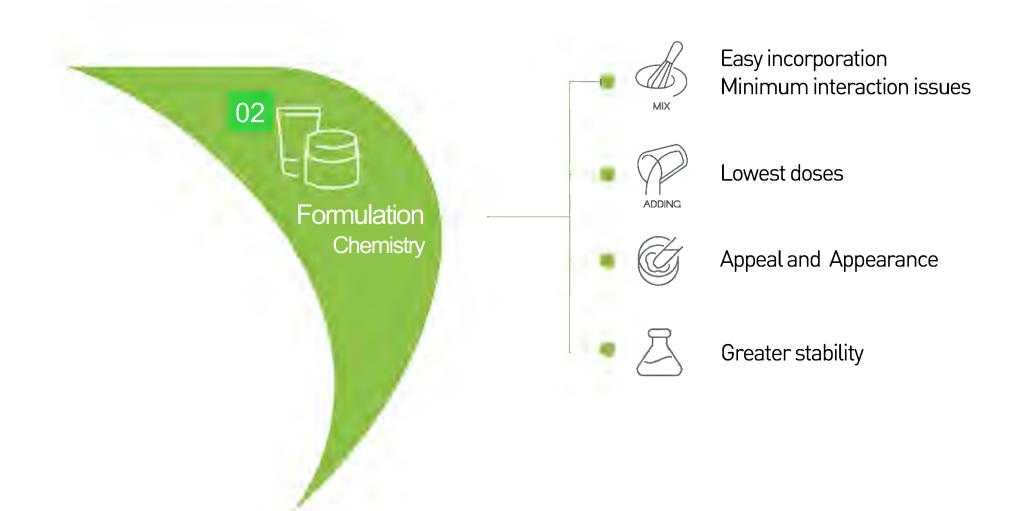






# in finitec We are active delivery

#### Make formulator life, as easier as possible

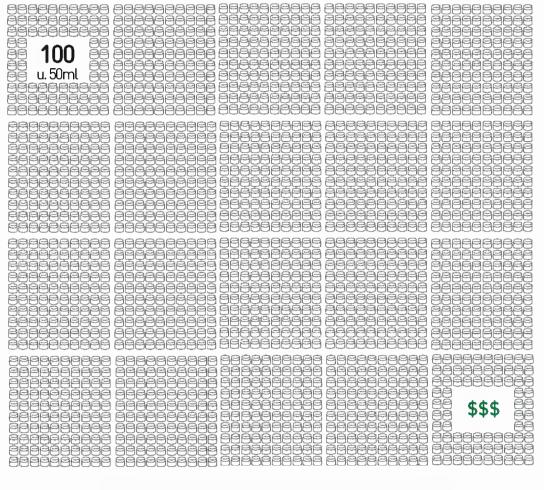


#### **FORMULATION**

THE MAXIMUM BENEFIT AT LOWER DOSAGES



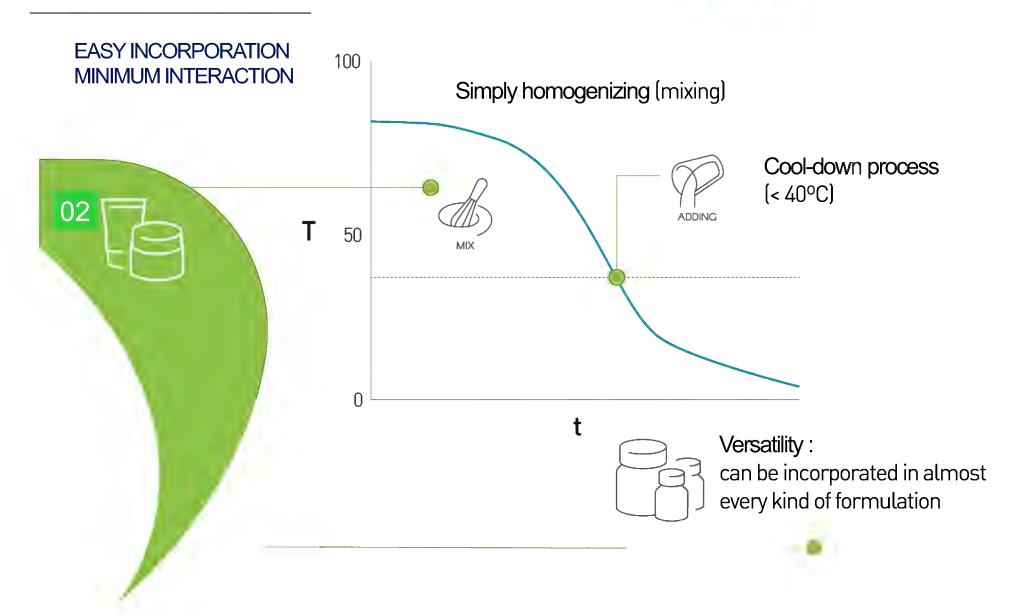




(Case: The Cosmetic Drone. 0.001% active concentration. Recommended dose: 1% of 1g/1L

#### **FORMULATION**

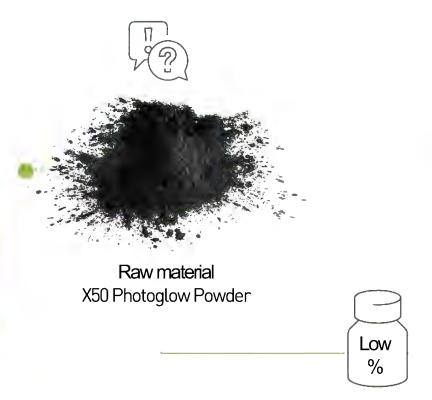




#### **FORMULATION**

LIMITED IMPACT ON SENSORY APPEAL & APPEARANCE

02



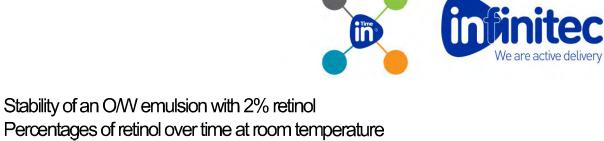




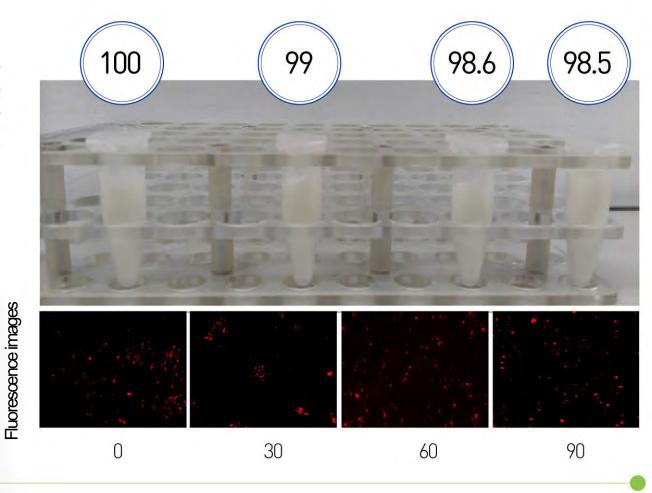




#### **FORMULATION**







(Case: Carnauba Wax capsules loaded with 7% retinol)

t (days)









Novel Delivery Systems

Value -Time for money proposition

Multi-functional less ingredients formulations Personalised Beauty Experience Understanding Cross-Markets









New technologies



Perceivable product benefits



Intangible assets (Patents)





# Novel Delivery Systems



# DELIVERY SYSTEMS FOR ADDING NEW VALUE TO ACTIVES We are active delivery.

**X50-**The Cosmetic Drone- Strong analogy with a drone. Various targeted solutions available.

MVPs- Precious metal for cosmetics- Luxury- Masstige Market

**WAX Capsules**-Vitalease – Retinol Revival- Evergreen: higher concentration, lower irritation.

**ACA-** Coderaser- Few products specific for lips

**Activys-** Create your cosmetic line for Sensitive Skin (50% of population says to have sensitive skin)

**Shuttle-** Simple & Natural at a cheap price



AND THE MOST POWERFUL CLAIM: UNIQUE PRODUCTS BY CUSTOM-MADE DELIVERY SYSTEMS.



#### Novel Delivery systems



#### MATERIALS & TECHNOLOGIES - OUR DS PLATFORM

Targeted (Cosmetic Drone)



THE COSMETIC DRONE ®

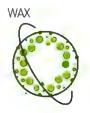
Conjugation (MVP)



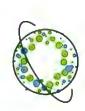
Activys ®



Wax-Caps



ACA-Caps



Liposomes



HMA for hair



Shuttle-Tec



AND AN INFINITE NUMBER OF POSSIBILITIES BY OUR CUSTOM-MADE PRODUCTS!







#### **THANK YOU!**

Dr. Natascia Grimaldi ngrimaldi@infinitec.es

Advances in Anti-ageing for Skin London, September 18<sup>th</sup>