

1 2

MODULARITY & FLEXIBILITY



DATASHEET\_BIOPRINTER\_3DDiscovery™ Evolution



<p>Printing technology</p> <p><b>11 different printing technologies available in a single process unit to address the most challenging applications</b></p>	<p>Tissue Engineering</p> <p><b>Bio stimulation process components</b></p>	<p>Software</p> <p><b>A unique user-friendly Bioprinting Software Suite to enhance your specific needs</b> BioCAD™ BioCAM™ BioCUT™</p>
<p>Biological controlled environment</p> <p><b>Processing in physiological &amp; sterile conditions. Class 2 biosafety environment</b></p>	<p>Technology convergence</p> <p><b>Macro &amp; Nano bioarchitectures enabled by converging electrospinning &amp; bioprinting biofabrication in one single process unit</b></p>	<p>Process control</p> <p><b>Improved process reliability supported by high precision sensors</b></p>

3

CUSTOMIZATION

MECHANICAL STIMULATION	ELECTRICAL STIMULATION	HYDRODYNAMIC STIMULATION	OPTICAL STIMULATION
Matrix density / Macro & Nano structural matrix mechanics	Electromagnetic stimulation (voltage and frequency modulation)	Microfluidic	Photo-activation
Controlled ECM compression	Cold plasma surface treatment	Perfusion	Controlled illumination (modulated)
Stress stimulation (vibration amplitude and frequency modulation)		Ultrasonic stimulation	

APPLICATION EXAMPLE

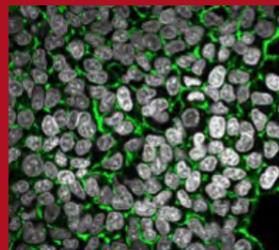
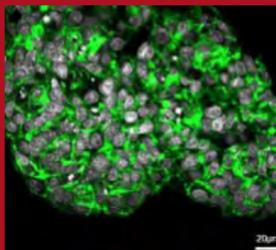
**DENOVOSKIN™**, a patient-specific autologous skin graft with dermal-epidermal structure, is setting a new standard-of-care in the treatment of permanent skin defects. This bio-engineered skin graft is the result of advanced tissue engineering science and biofabrication expertise translated into clinical application by Cutiss Ltd. (cutiss.ch).



REGENHU PROPRIETARY PROCESS TECHNOLOGY

Manual

Printed

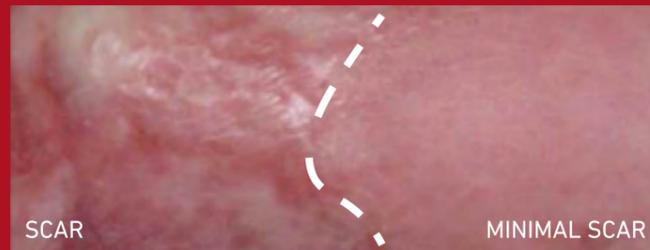


regenHU's proprietary process technology enables the fabrication of controlled tissue architectures with homogeneous cell distribution within optimized 3-dimensional biological environments, resulting in clinically quantifiable in-vivo relevant tissue structures.

CUTISS SUPERIOR THERAPEUTIC SOLUTION

Standard-of-care

denovoSkin™



denovoSkin™ overperforms the standard-of-care: after transplantation, the body has little means of producing scar tissue and inducing contraction. Superior clinical, functional & esthetical outcomes.

# 3DDiscovery™ Evolution

THE BIOPRINTING SOLUTION TO DRIVE SCIENCE



ENGINEER COMPLEX BIOARCHITECTURES TO MIMIC NATURE'S MACRO & NANO STRUCTURES

A STEP CLOSER TO THE DEVELOPMENT OF ARTIFICIAL ORGANS

SWISS INNOVATION



# 3DDiscovery™ Evolution

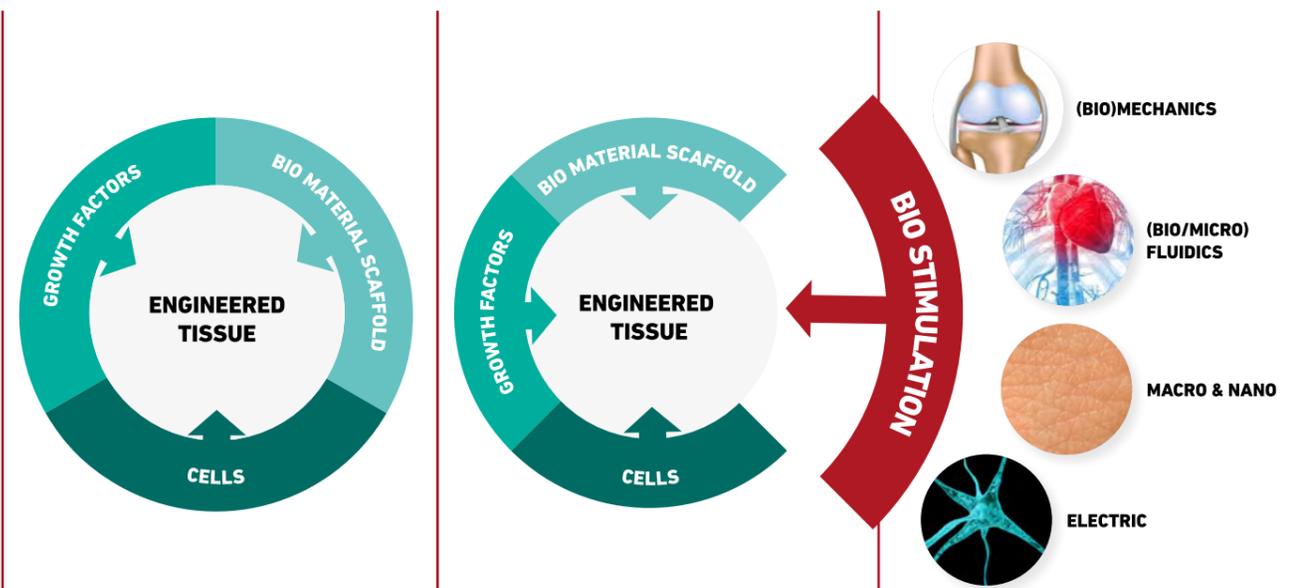
UNDERSTANDING WHICH STIMULI NEED TO BE USED AND IN WHAT CONDITIONS IS THE NEXT STEP IN TISSUE ENGINEERING.  
WE PROVIDE THE SCIENTIFIC INSTRUMENT TO ACCOMPLISH THIS.

## Tissue engineering & regenerative medicine evolution

1<sup>ST</sup> GENERATION  
3 PILLARS  
PRINCIPALS OF TISSUE ENGINEERING  
VACANTI & LANGER

2<sup>ND</sup> GENERATION  
4 PILLARS  
BIO STIMULATION CONCEPT

EVOLUTION TO DATE  
BIO STIMULATION  
UNDERSTAND STIMULI & CONDITIONS



1995

2010

2015

## 3DDISCOVERY™ EVOLUTION

ENABLING TECHNOLOGY  
WE SUPPORT THE EVOLUTION

Tissue engineering and biotechnology sciences are complex areas where multiple components including material types, composition, cell viability and bio-architectures are all crucial.

Bioprinting is a rapidly evolving field; the FLEXIBILITY and MODULARITY of your bioprinting instrument are key factors in your future accomplishments.

The 3DDiscovery™ has these unique features which will allow you to follow the constant changes and rapid evolution in bioprinting science and specifically in bio stimulation.



**3DDISCOVERY™ EVOLUTION IS YOUR PARTNER** to find the right **STIMULI & CONDITIONS** to enable tissue & organ fabrication.

1

### MODULARITY

**11 different printhead technologies in a single instrument:** to process an extensive biomaterial portfolio, multiple polymerization methods and technical accessories allow us to adapt and optimize the instrument to your application needs.

2

### FLEXIBILITY

**Your requirements are constantly evolving:** the configuration and specifications of your instrument can be modified and adapted at any time, thereby allowing your bioprinting hardware to develop along with your specific scientific progression.

3

### CUSTOMIZATION

**We offer the solution to your precise application:** a broad range of bio stimulation features are dedicated to your bioprinting processes.



A UNIQUE BIOPRINTING SOLUTION TO DISCOVER THE UNDISCOVERED

3DDISCOVERY™ EVOLUTION