11:00	Reception
11:30	**Nolato Group – Christer Wahlquist** Our journey so far and current position, our (expanded) offering, Group synergies, core values and corporate culture
12:00	**Nolato Group – Per-Ola Holmström** Financial review of Group, incl. targets
12:15	**Nolato Group – Christer Wahlquist** ESG – 'plastic as a material', recycling in general, Nolato's R&D and sustainability work
12:45	Tour of the plant, incl. buffet lunch
14:00	**Medical Solutions – Johan Iveberg** Position/offering, operational focus & Medical Solutions Expanding Offering
14:45	**Industrial Solutions – Johan Arvidsson** Position/offering, operational focus and 'efficiency measures'
15:15	**Integrated Solutions – Jörgen Karlsson** Position/offering, operational focus and EMC
15:45	**Nolato Group – Christer Wahlquist** Overall strategy and goals
16:00	End of day

634
SALES
SEKm

82
EBITA
SEKm

12.9
EBITA MARGIN
%

Global expansion

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Medical Solutions in brief

Leading developer and manufacturer of polymer products and systems for medical technology and pharmaceuticals.

Current position:

- Growth with maintained profitability
- Strong position with leading global customers
- Glocal presence

Customers: Major pharmaceutical and medical technology companies, e.g.

Medtronic, Pfizer, BD, SANOFI, Coloplast, Roche, Boston Scientific, Baxter, Takeda, ConvaTec, novo nordisk, NOVARTIS, HAMILTON

SEKm	Q2 2019	Q2 2018	2019 LTM	2018
Sales	**634**	562	**2,421**	2,270
Operating profit (EBITA)	**82**	73	**313**	295
EBITA margin (%)	**12.9**	13.0	**12.9**	13.0
Operating profit (EBIT)	**82**	72	**311**	291

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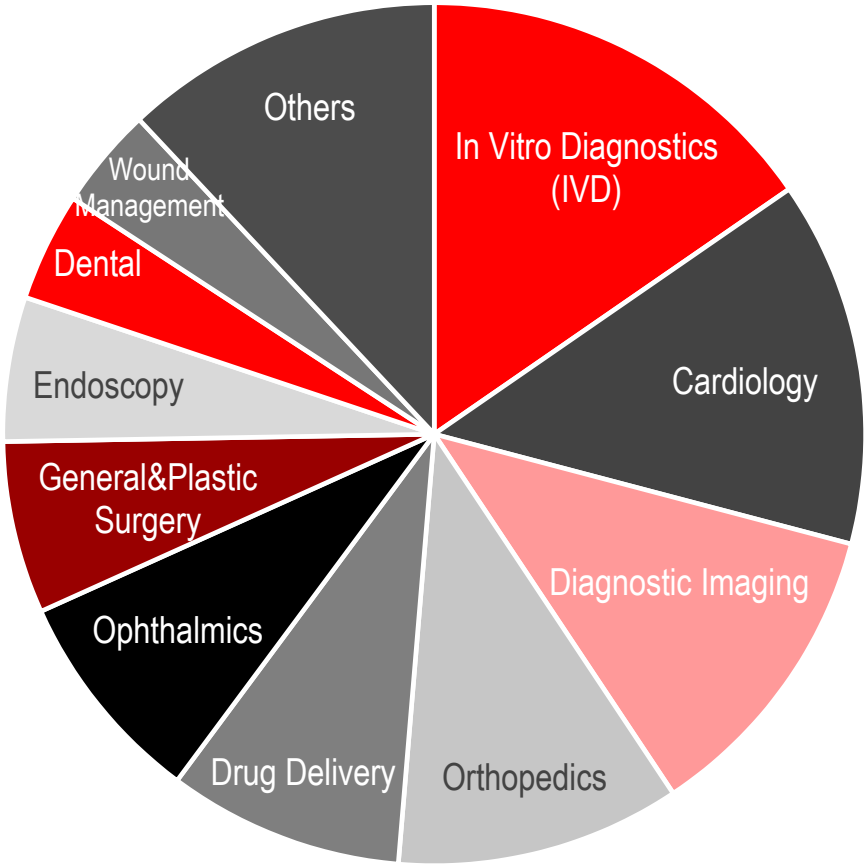
Medical Solutions – a stable growing market

Market

- Global Market
  - Total Pharma & Medtech market size is $1200bn
  - Medical Device market $230-250bn
  - Addressable market $23-25bn
  - Estimated growth rate 3-5%

Trends

- Market consolidation, driven by demands for lower healthcare costs
- Long-term potential for growth
  - Diabetes, drug delivery, IVD and cardiology
- Long product lifecycles and stable demand
- Global suppliers
- Increased interest in outsourcing
- Plastic replacing glass and metal
- Design given higher priority



Källa: Kalorama och Datamonitor

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Medical Solutions Offer

- Close partnership with leading Medtech and Pharma customers with New Product Development (NPD) projects and volume production of polymer based product Solutions
- Insource/transfer production from our customers giving them possibility to concentrate on core business
- Platform products with our own design in areas where we are not competing with our customers

From idea to reality & full scale production

Concept development

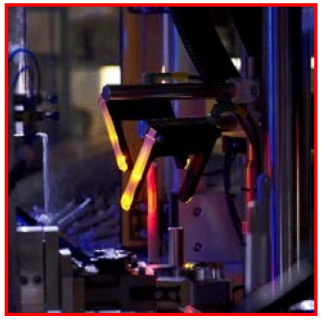
We support customers from early stage in concept development, product design & production optimization

Customer oriented Solutions

We create technical Solutions such as give the product unique haptic and cosmetic properties, making it waterproof, reduces weight and / or reduce its environmental impact

Design

We optimize design in order to create the most efficient and effective production Solutions in terms of function, quality and economy. DFM & DFA



Industrialization

We specify and source molds, automation and other production related equipment

World-class Operations

With highest possible standard we constantly ensure world-class quality, service and cost efficiency in our state of the art manufacturing sites

Continuous Improvements

We constantly ensure world-class quality, service and cost efficiency through, professionalism, well trained employees and effective systems for continuous improvements

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Medical Solutions

Medical Devices

Pharma Packaging

Nolato

Medical Solutions – Focused Product Areas

Drug Delivery

In Vitro Diagnostics (IVD)

Cardiology

Continence Care

Pharma Packaging

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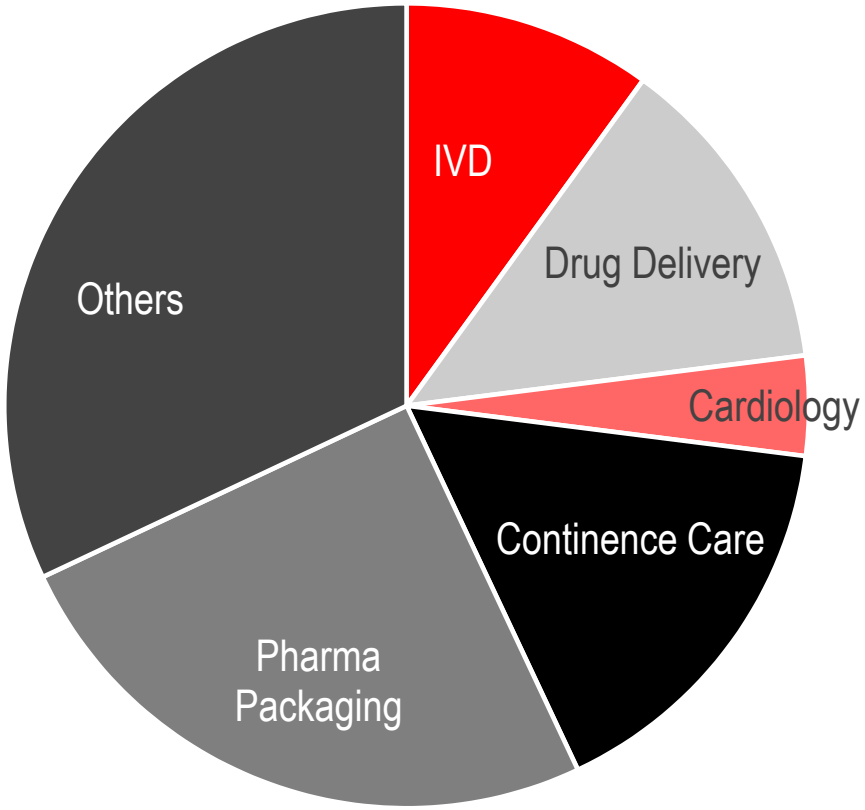
Medical Solutions - share of sales



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Medical Solutions – Our direction & strategy

Positioning towards a global high-tech partner

2000 →	2010 →	2020 →
Yesterday	Today	Tomorrow
Component Supplier	**System Supplier**	**Solution Provider**
Component supplier to local Medtech customers	Offering System products to selected Pharma and Medtech Customers	Offer complete Solution to Global Pharma and Medtech partners
Injection molding of TP/TPE & Silicone	Injection molding, automation, assembly	Complete Solution incl. embedded electronics, possible drug handling
Local Presence	Expanded footprint in EU, US and Asia	Global Presence

Medical Solutions – Expanding Global Footprint

2006
Nolato MediTech


2005
Nolato Hungary


1997
Nolato MediTor


2010
Nolato Contour


2011
Nolato TDC


1999
Nolato MediTech


2016
Nolato Stargard


2007
Nolato Cerbo


2012
Nolato Jaycare


2008
Nolato Beijing


2016
Nolato Treff


Nolato

Growing Global Footprint


Nolato Hungary


Nolato Jaycare


Nolato Beijing


Nolato Contour


Nolato MediTech


Nolato Stargard


Nolato Treff

Competitive Positioning of Medical Solutions Project Services

Overview

- Customers needs
- Traditional way of working
- Opportunity
- Medical Solutions new Offering
  Demo Case
- Summary

Kristoffer Glowacki
Vice President Strategic Development & Technology

Hörby 2019-09-16

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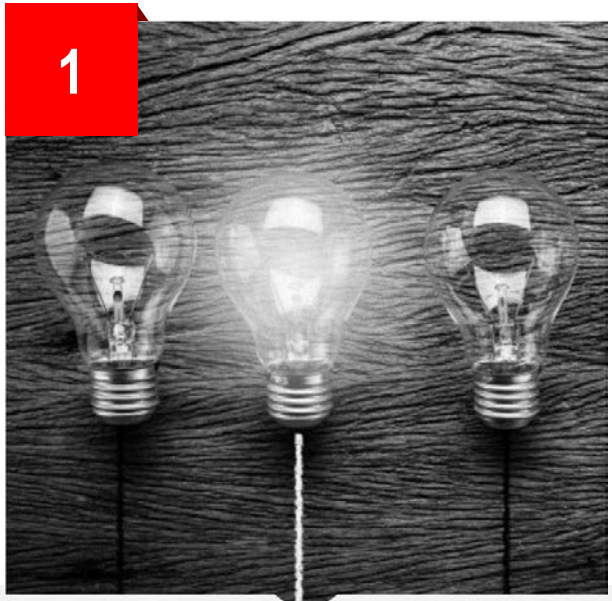
Customers Needs

When asked to prioritize top concerns in product development

1

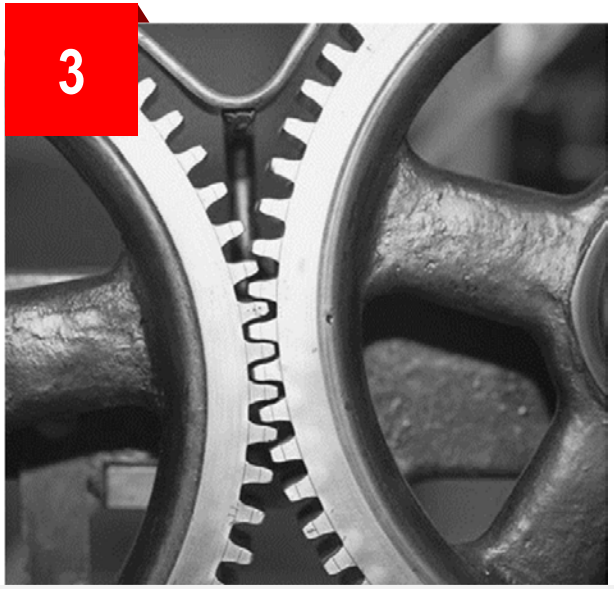


Product innovation

2

Reducing time-to-market

3



Efficient product development

Survey of senior executives and representatives from medical device and pharmaceutical companies in Europe and the United States

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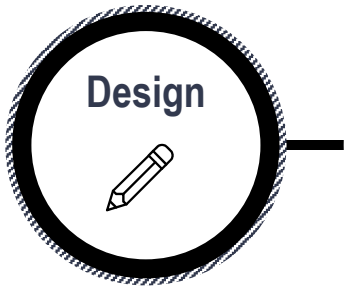
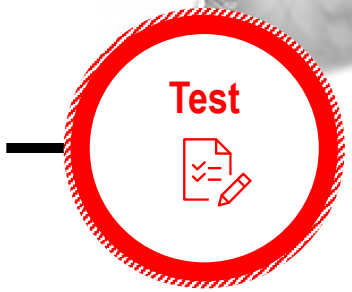
Traditional way of industry execution

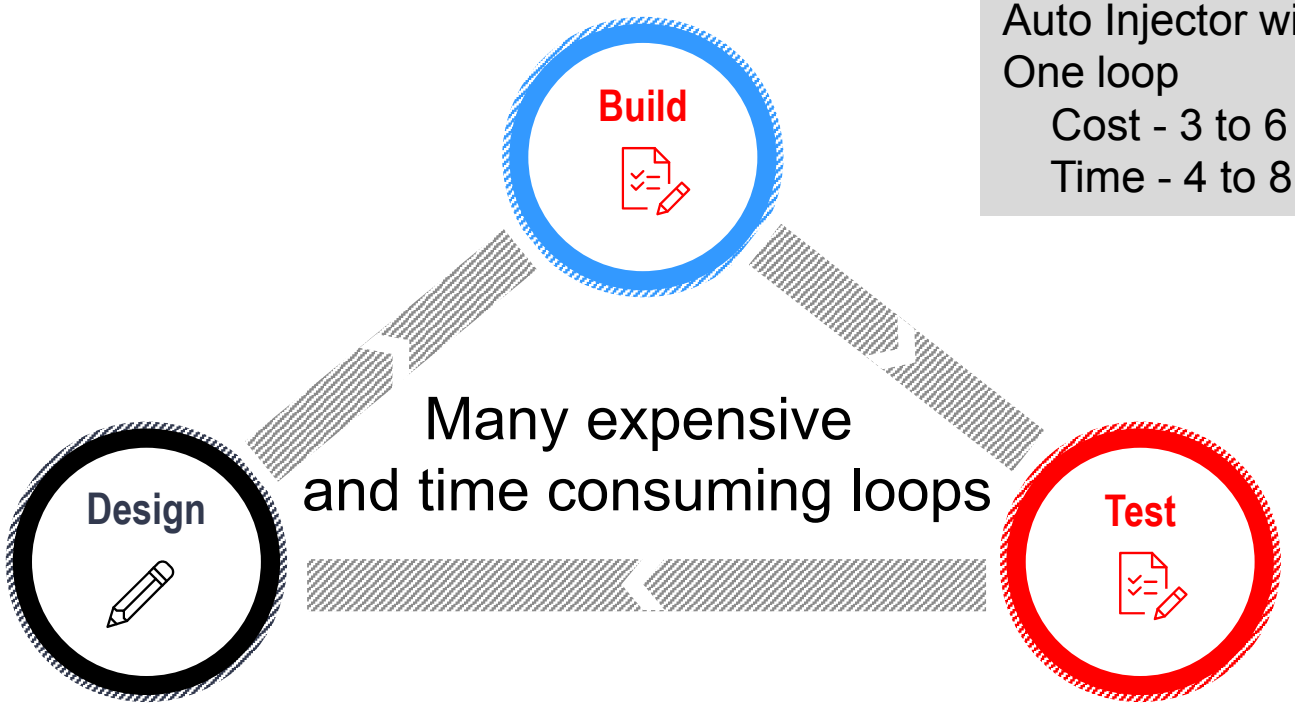
- ”Brain Storm” driven design work dominates execution
- Development work mainly based on empirical knowledge
- Issues surfing up in late stages of the process
- Project delays
- Overruns on project budgets
- Product costs higher than planned



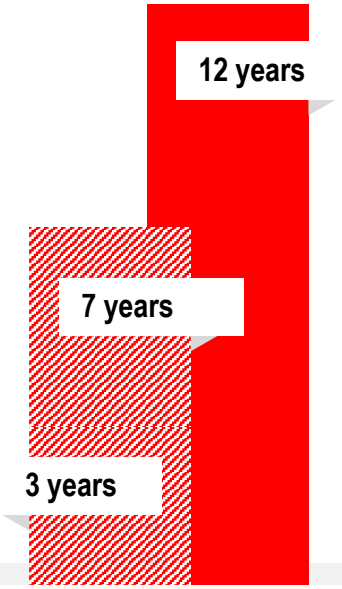


Traditional way of industry execution – mainly based on empirical knowledge

Auto Injector with10 to 20 components
One loop
- Cost - 3 to 6 mill Euro
- Time - 4 to 8 month



Opportunity



Whereas new drug approval takes an average of 12 years, moving new medical devices from concept to market takes an average of 3 to 7 years*

Navigating a device through the 510(k) process from concept through reimbursement will cost an average of $73 million

* Public Health Effectiveness of the FDA 510(k) Clearance Process: Balancing Patient Safety and Innovation: Workshop Report.

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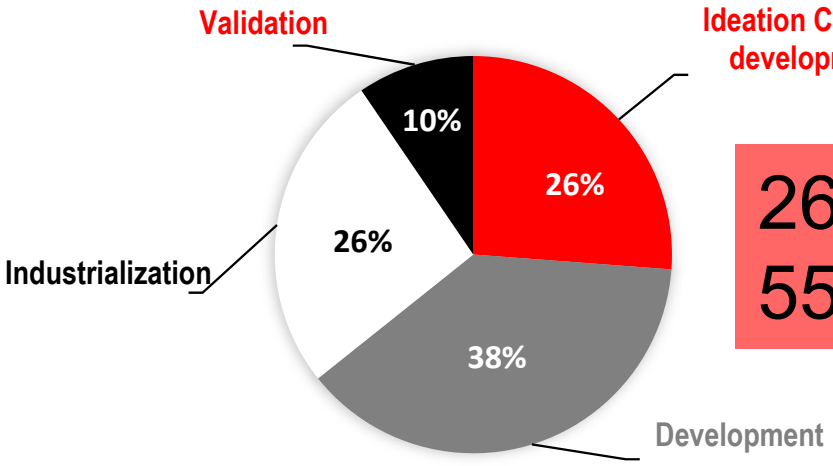
Opportunity

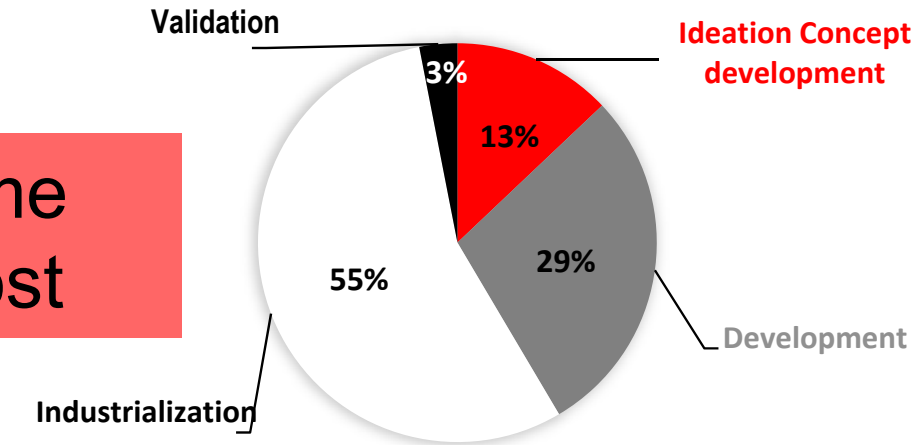
Average split of cost and time per project phase

LEAD TIME



26% of time
55% of cost

PROJECT COST



Average 5 years

Average $73 mill

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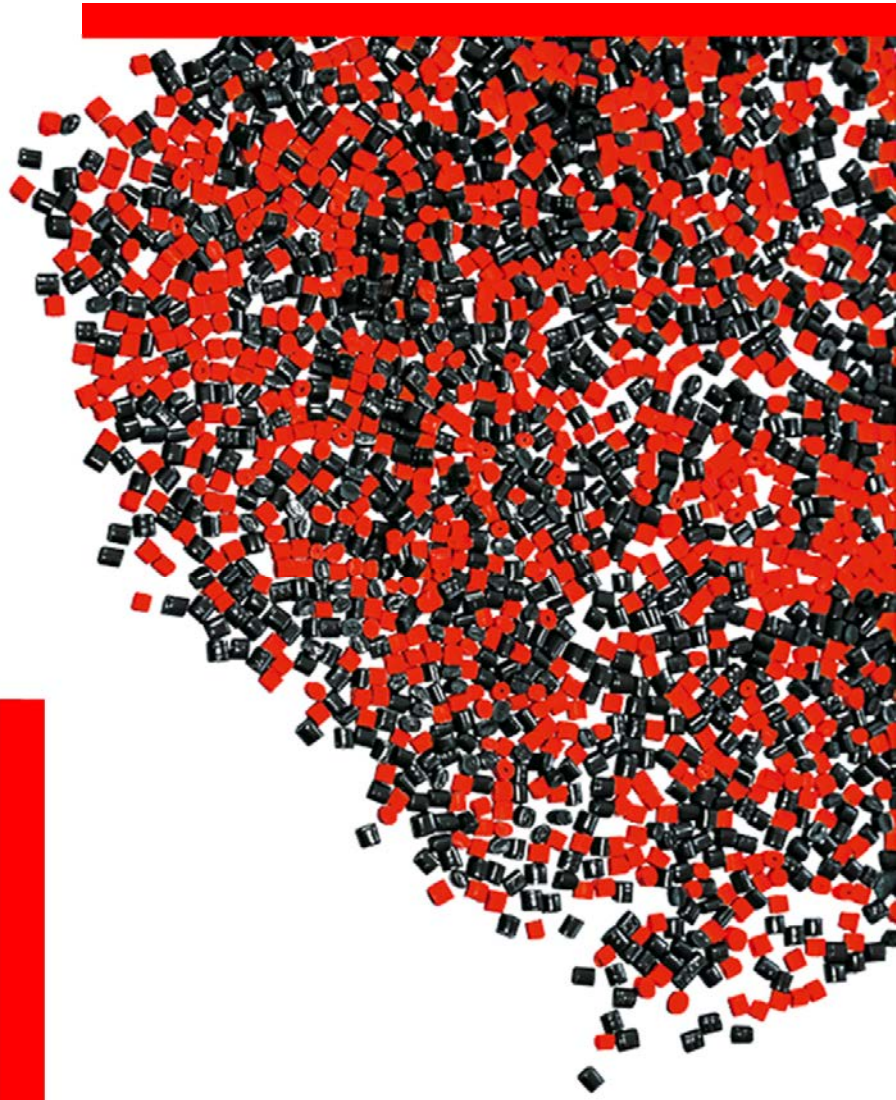
Medical Solutions new offering

Virtual Design and Prototyping

Helping our customers to mitigate the uncertainty, risks, costs and time associated with New Product Development



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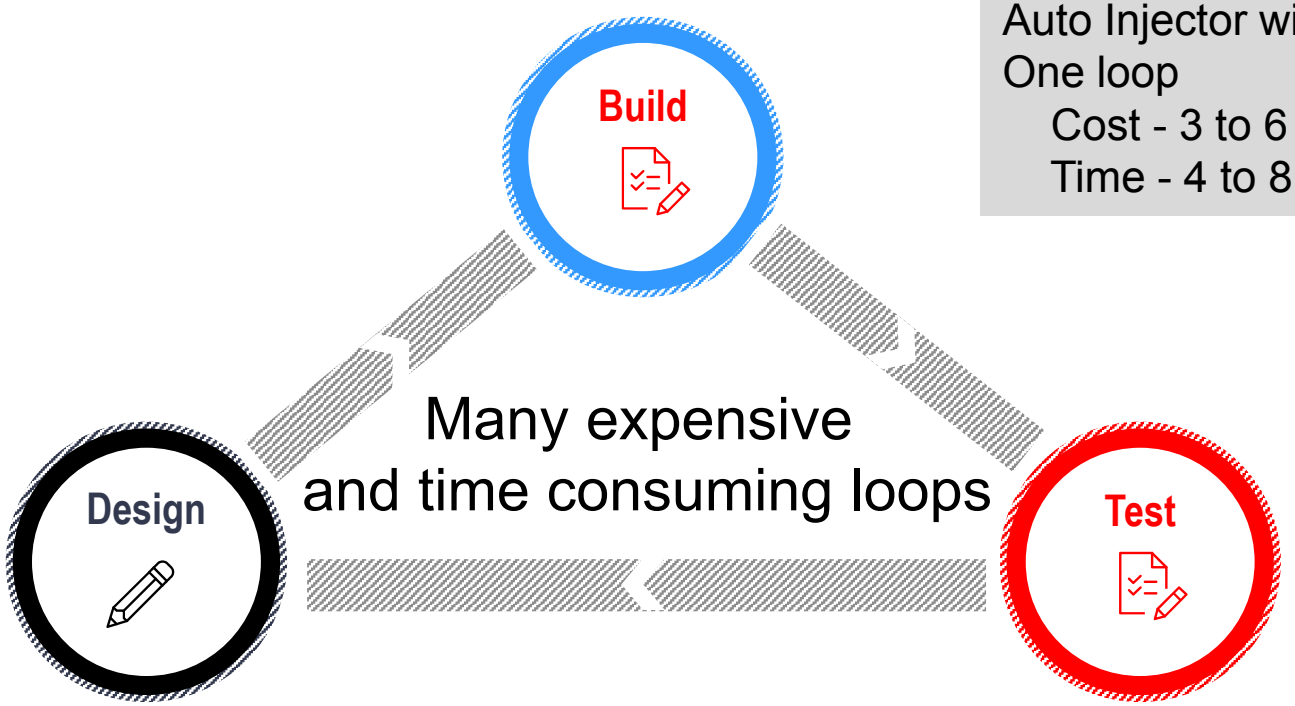
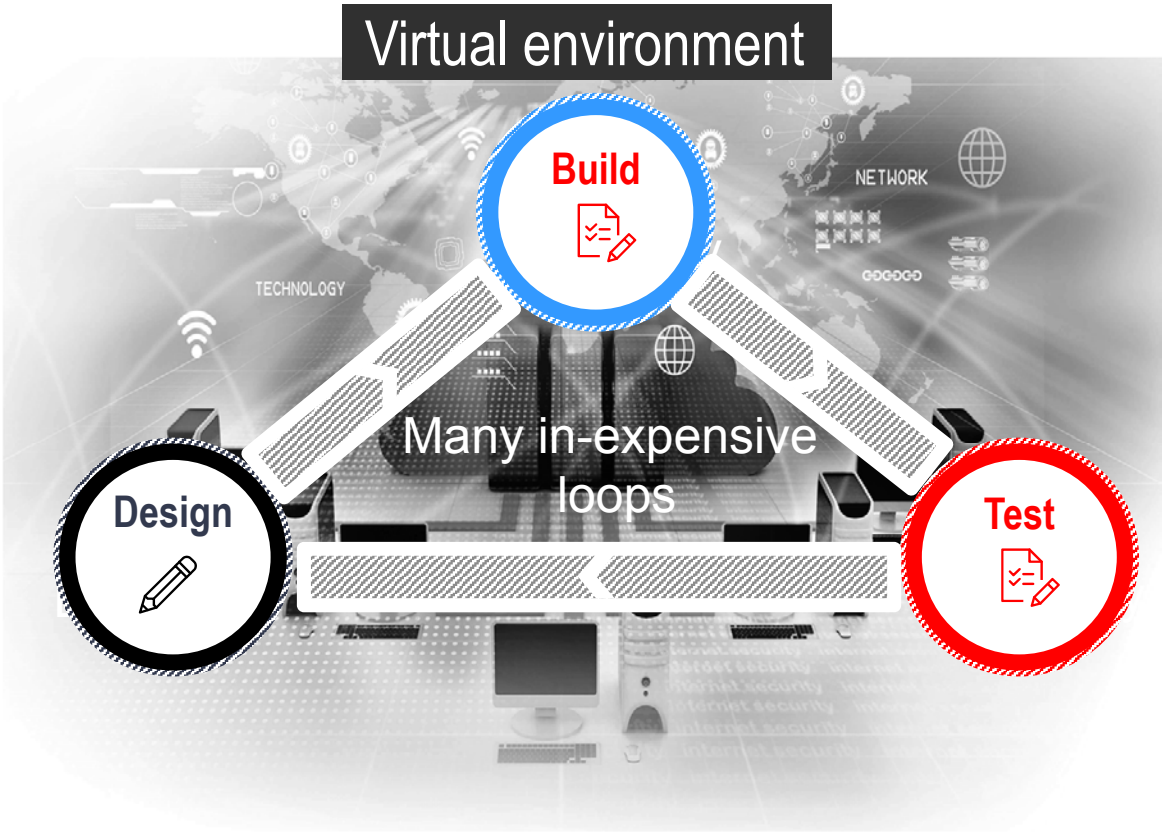
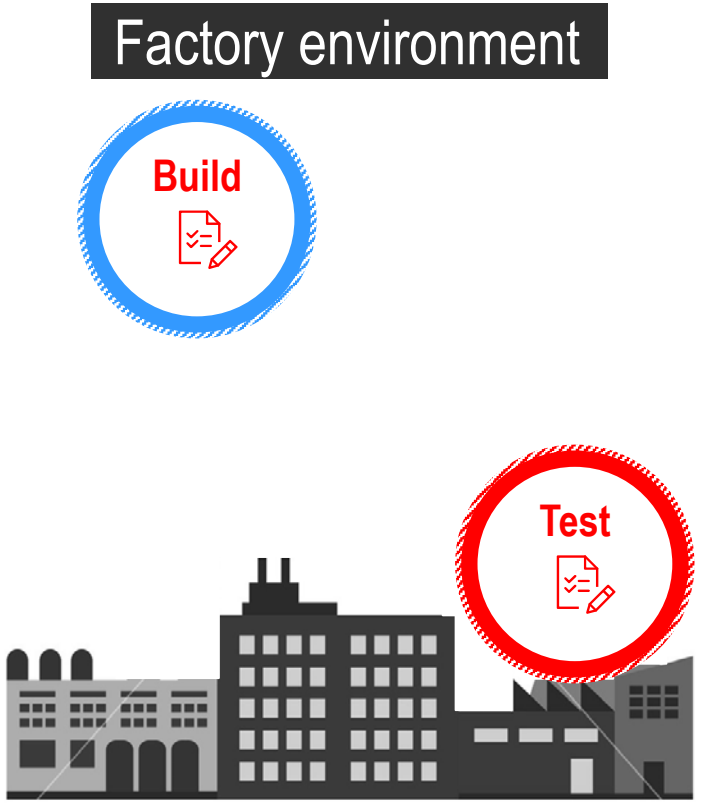
Traditional way of industry execution – mainly based on empirical knowledge

Auto Injector with10 to 20 components
One loop
Cost - 3 to 6 mill Euro
Time - 4 to 8 month



New way of industry execution – mainly based on analytical knowledge





The challenge

Mastering the skills

Analytical knowledge

- Theoretical expertize
- Digital tools –software expertize
- Materials

Empirical knowledge

- Manufacturing processes
- Metrology
- Materials

Way of working

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Demo Case
Development of an Autoinjector

Virtual Design and Prototyping

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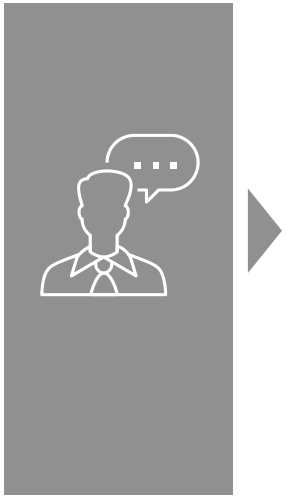
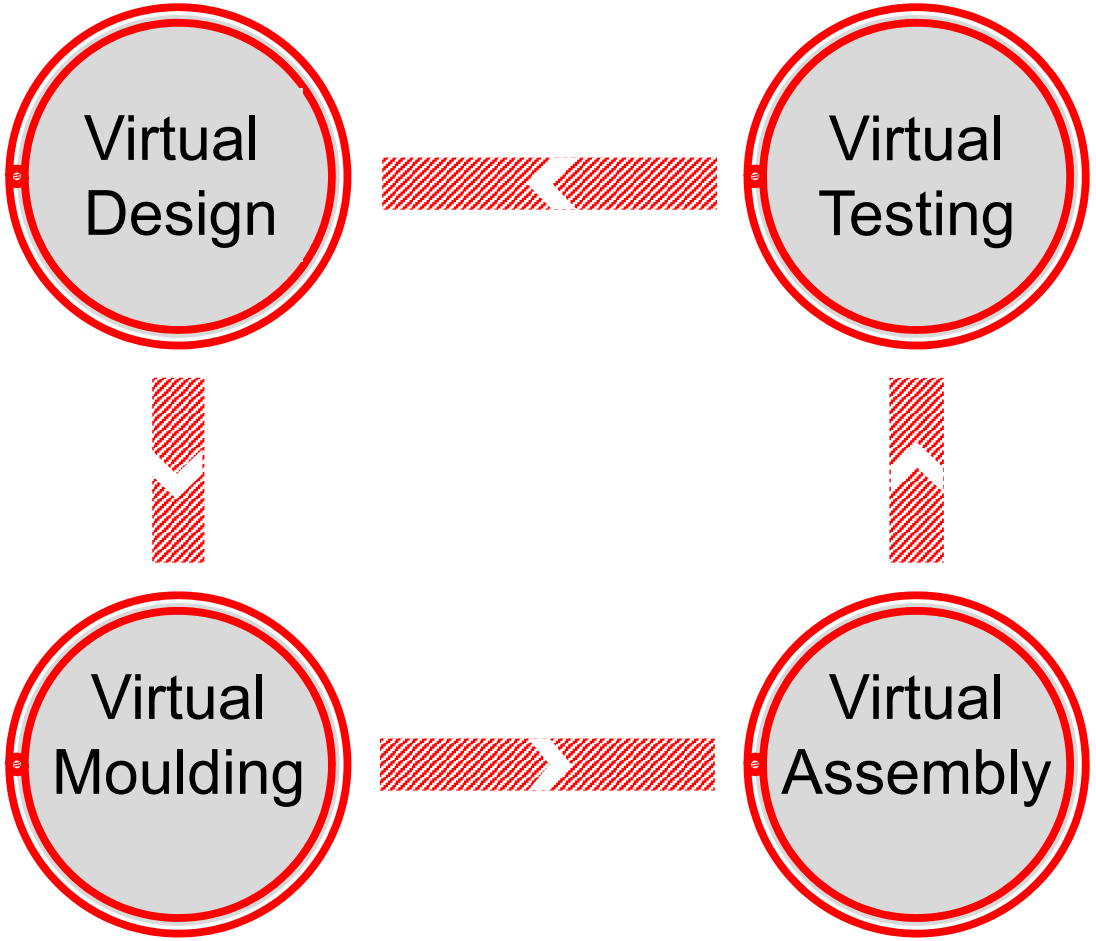
Work Process





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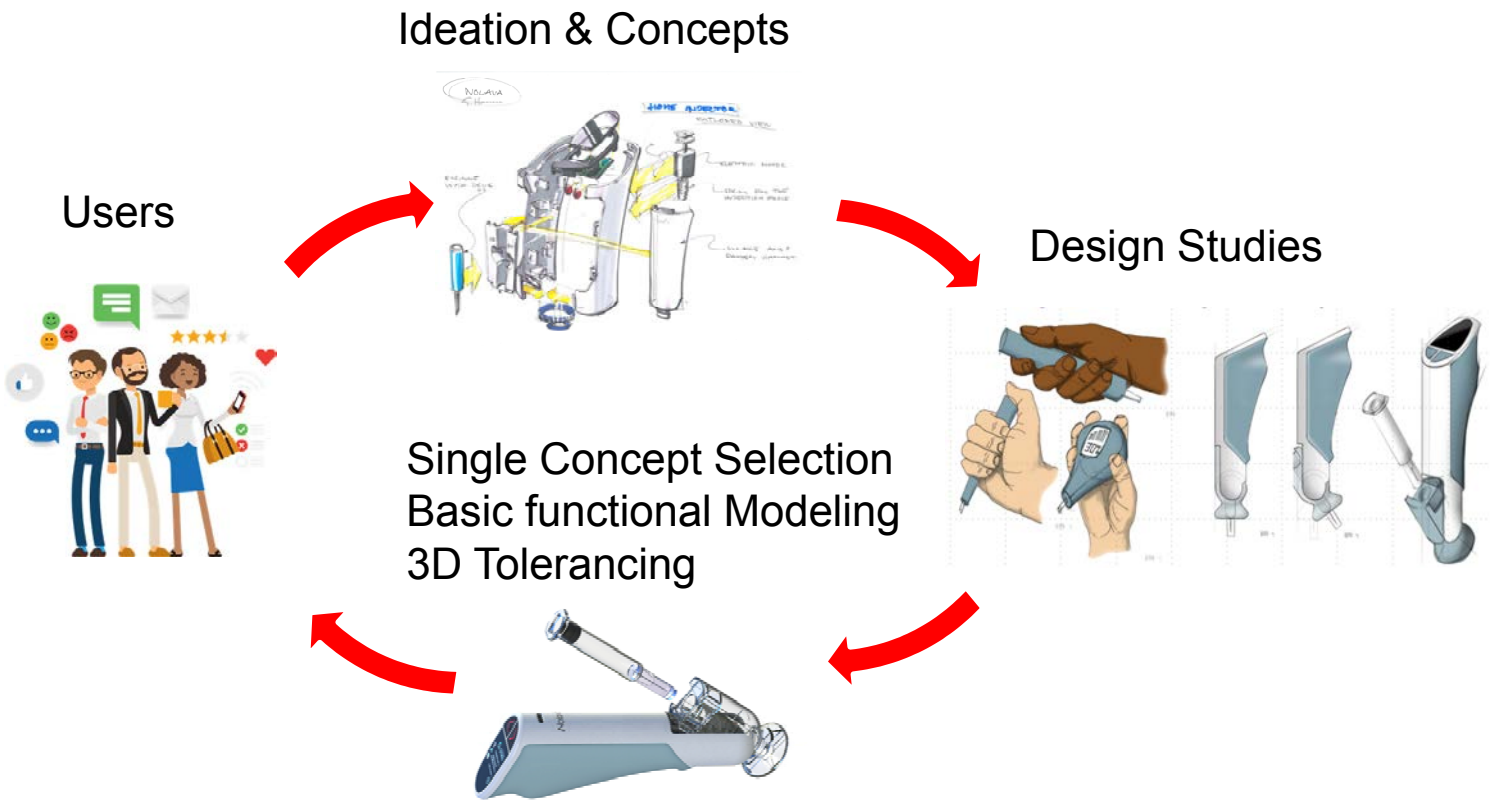
Virtual Design

In the Theoretical World of Science, Ideation, Interactions with End Users and Concept Development



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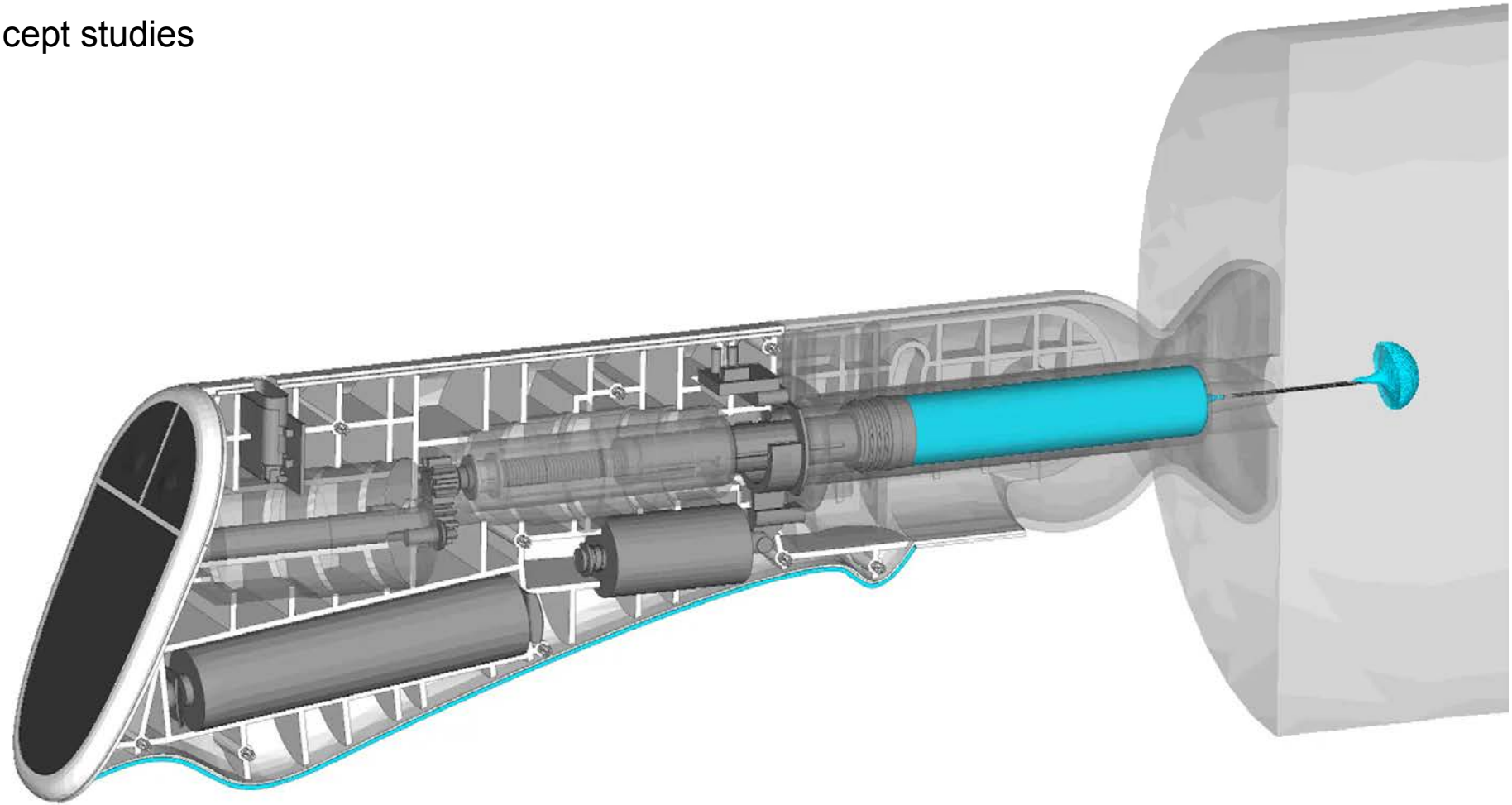
Concept studies



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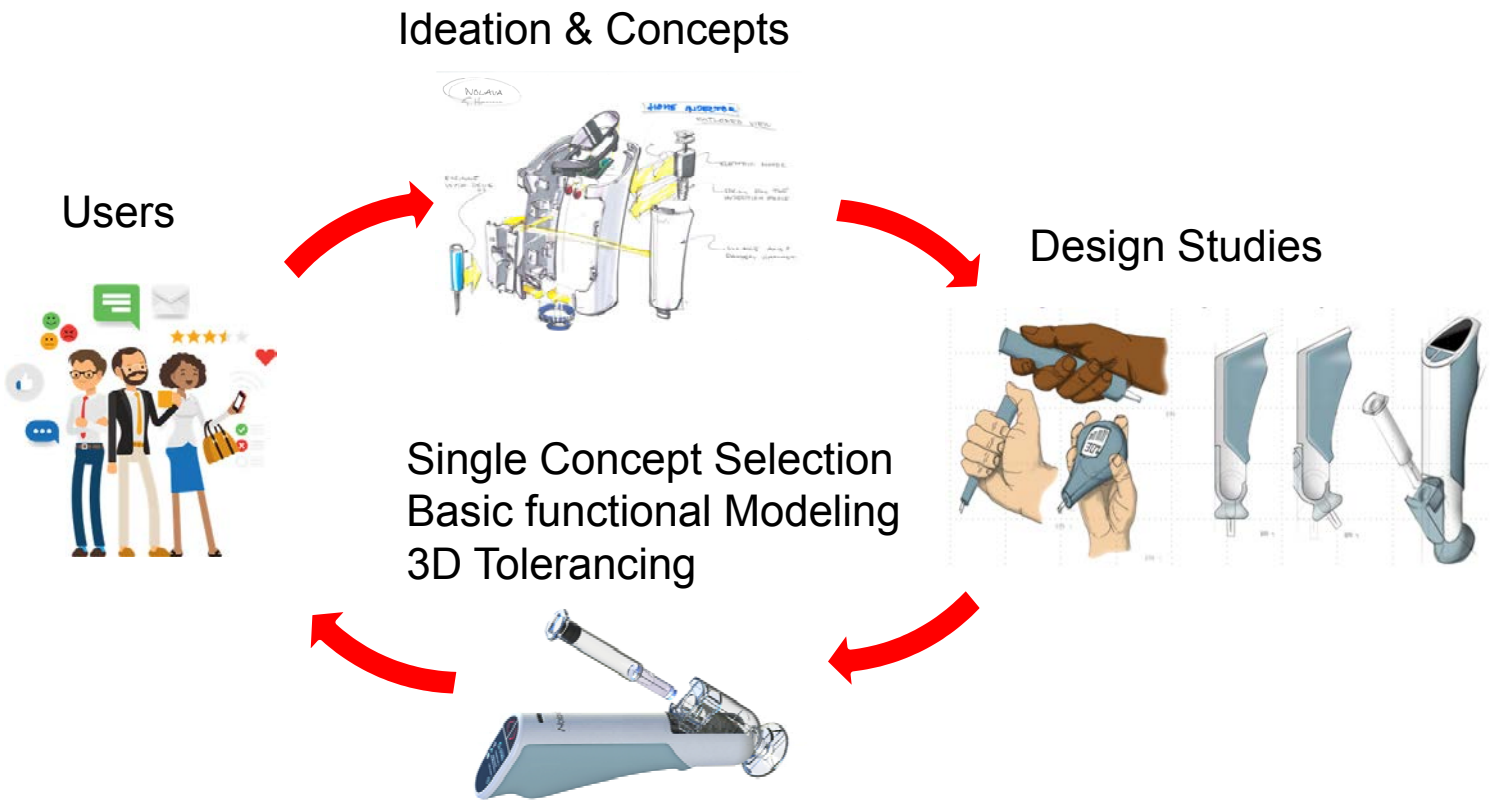
In the Theoretical World of Science, Ideation, Interactions with End Users and Concept Development



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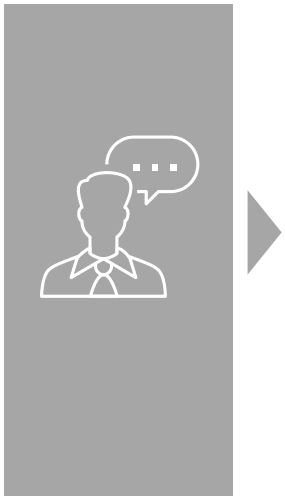
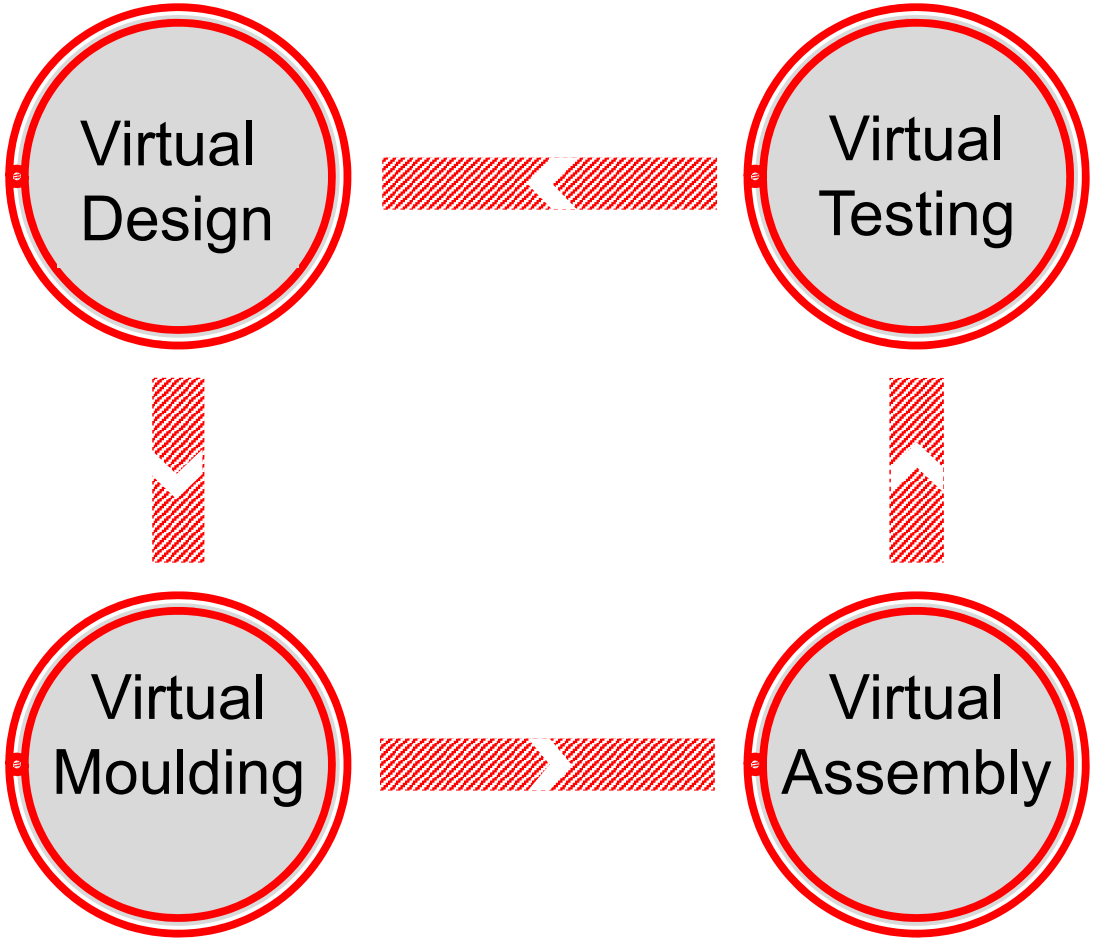
Work Process

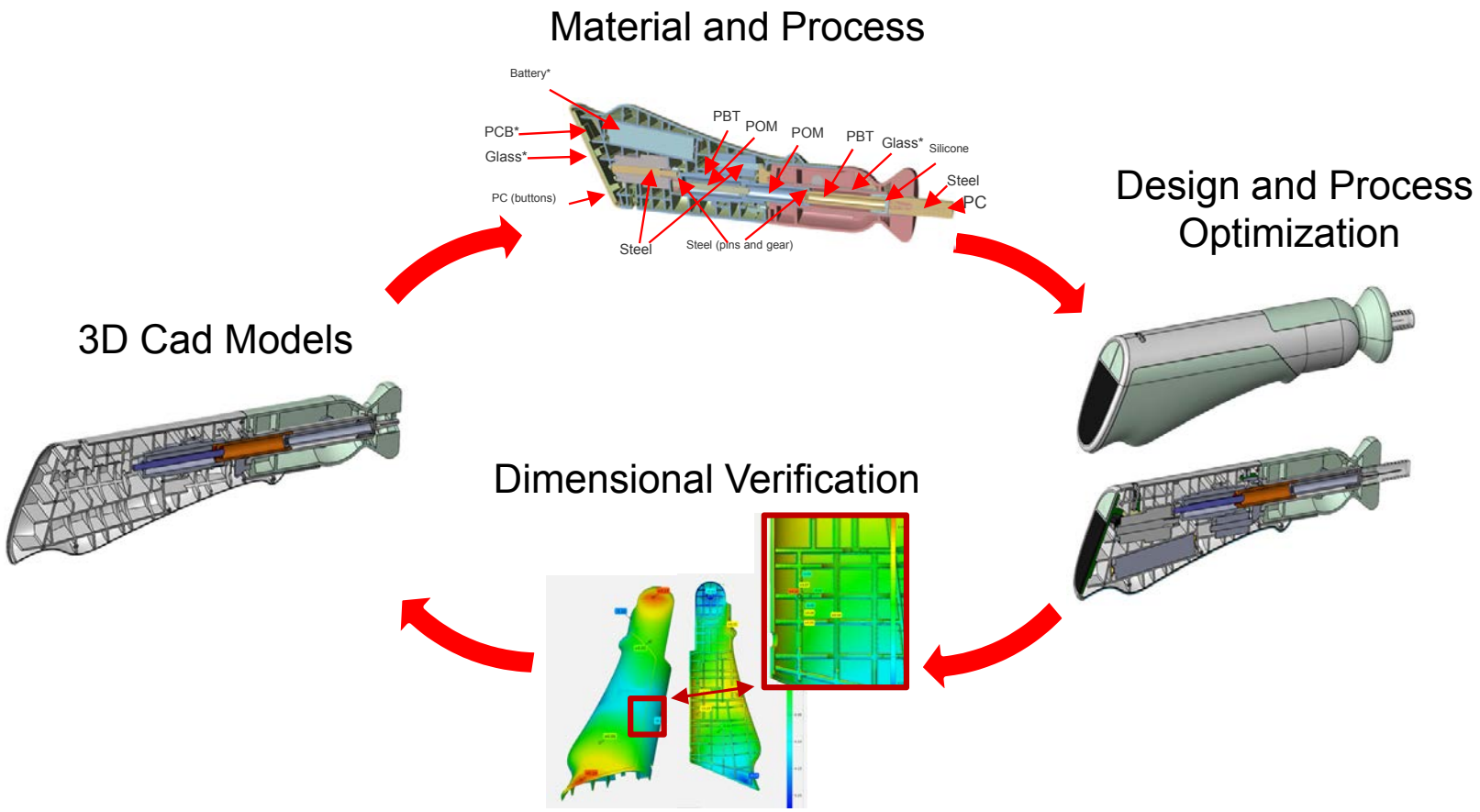




Nolato

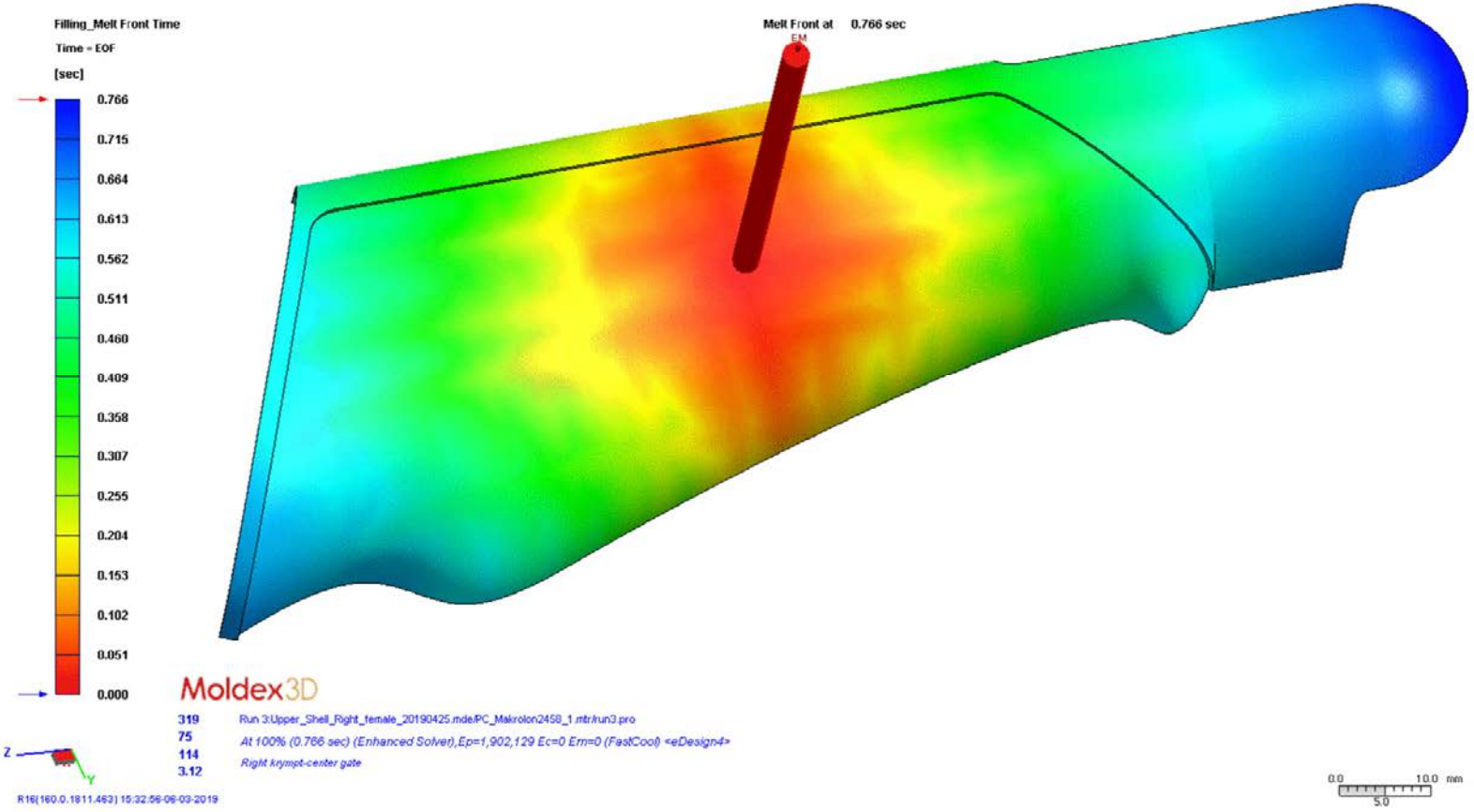
Virtual Molding

In the Simulation World of Molding, Material and Tooling Technologies



Nolato

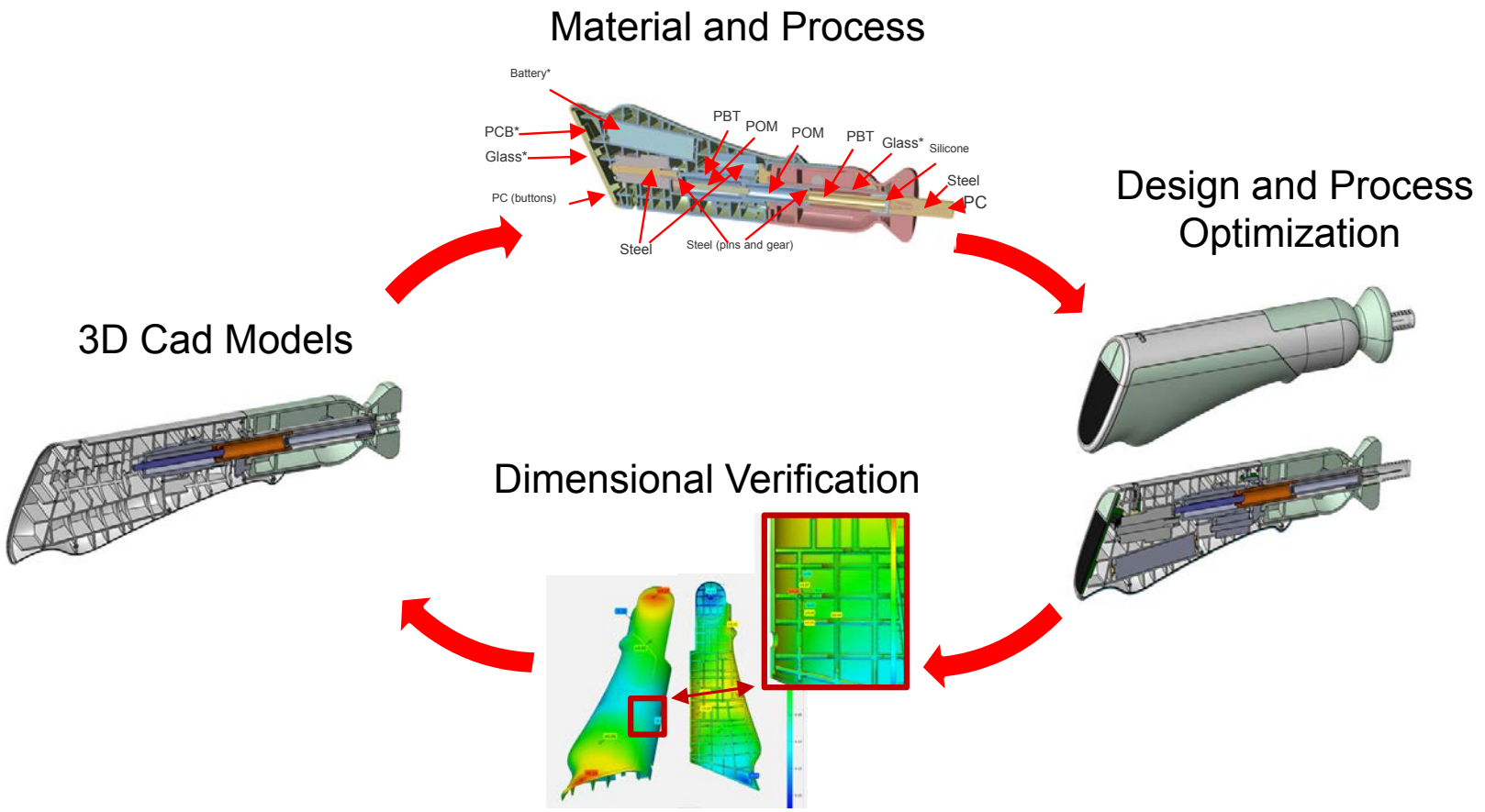
Material and Process Assessment



Filling

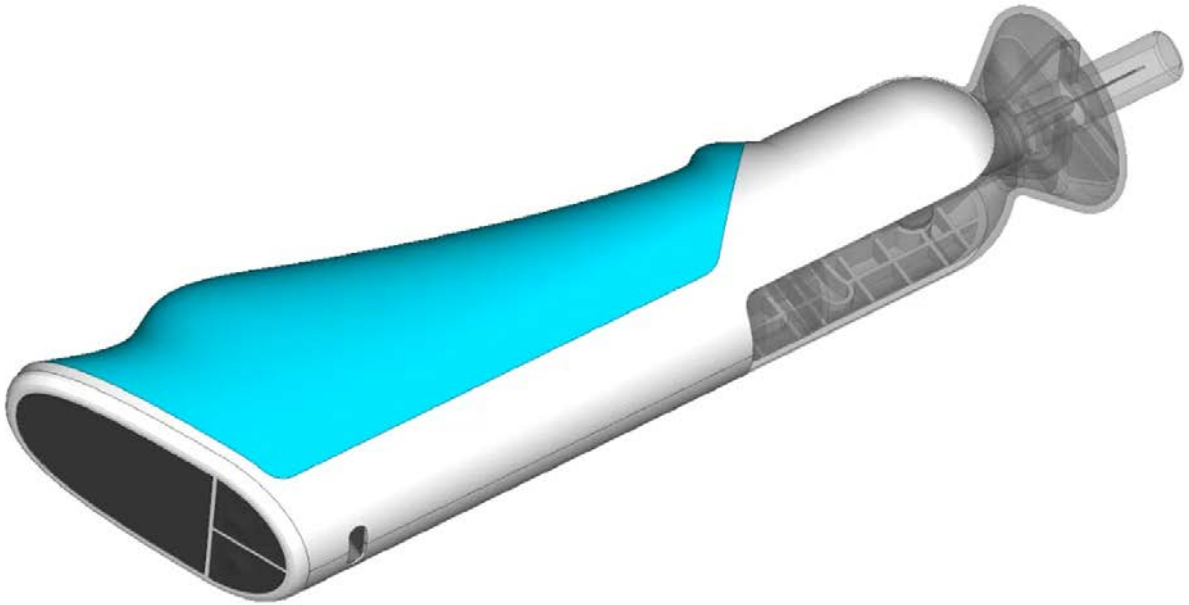
Virtual Molding

In the Simulation World of Molding, Material and Tooling Technologies



Nolato

Optimization



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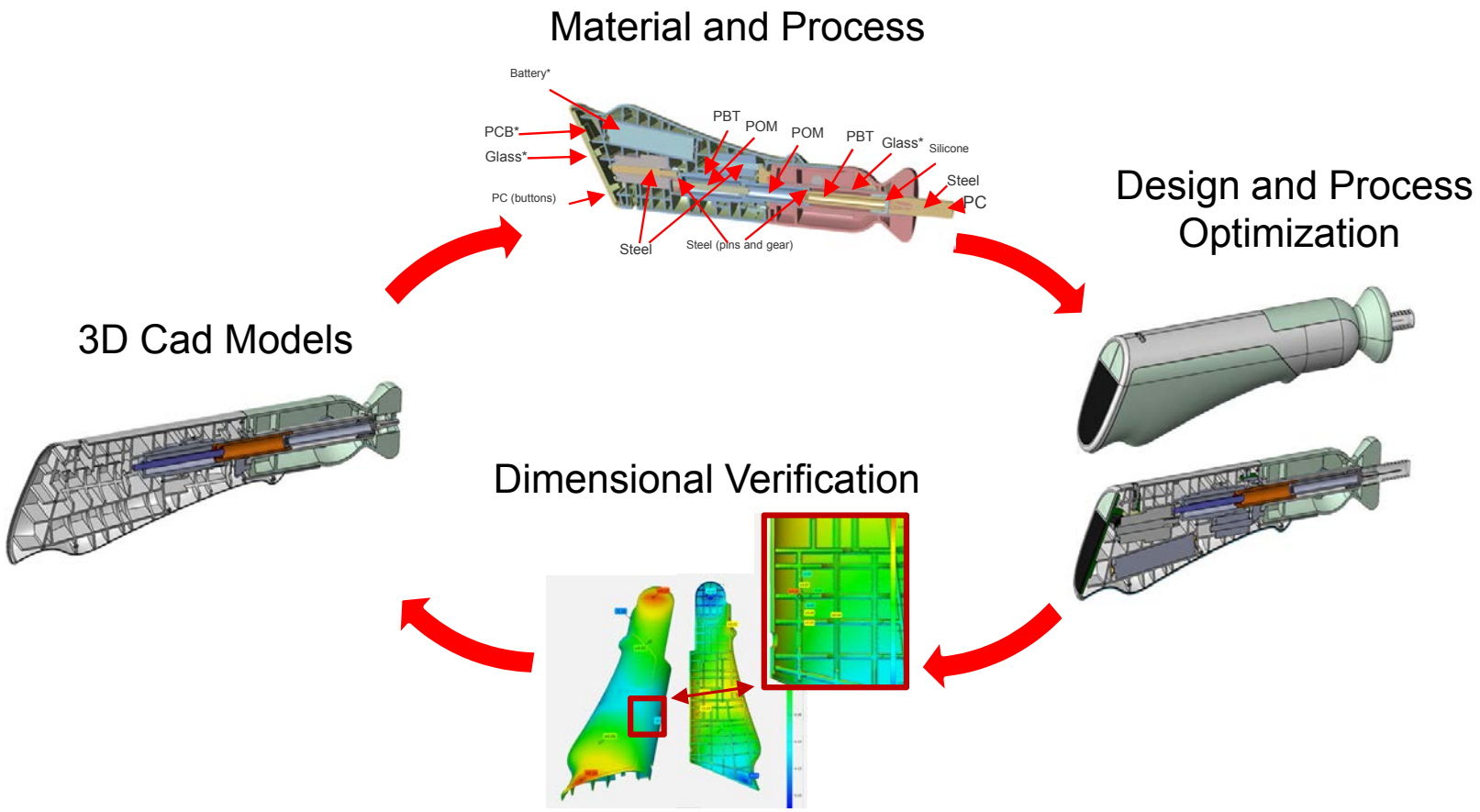
In the Simulation World of Molding, Material and Tooling Technologies



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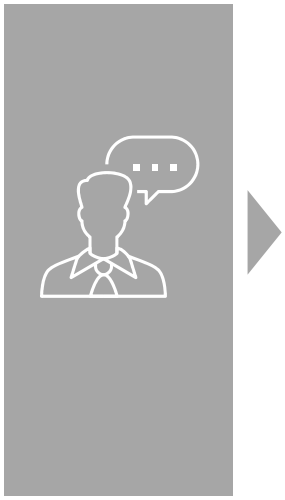
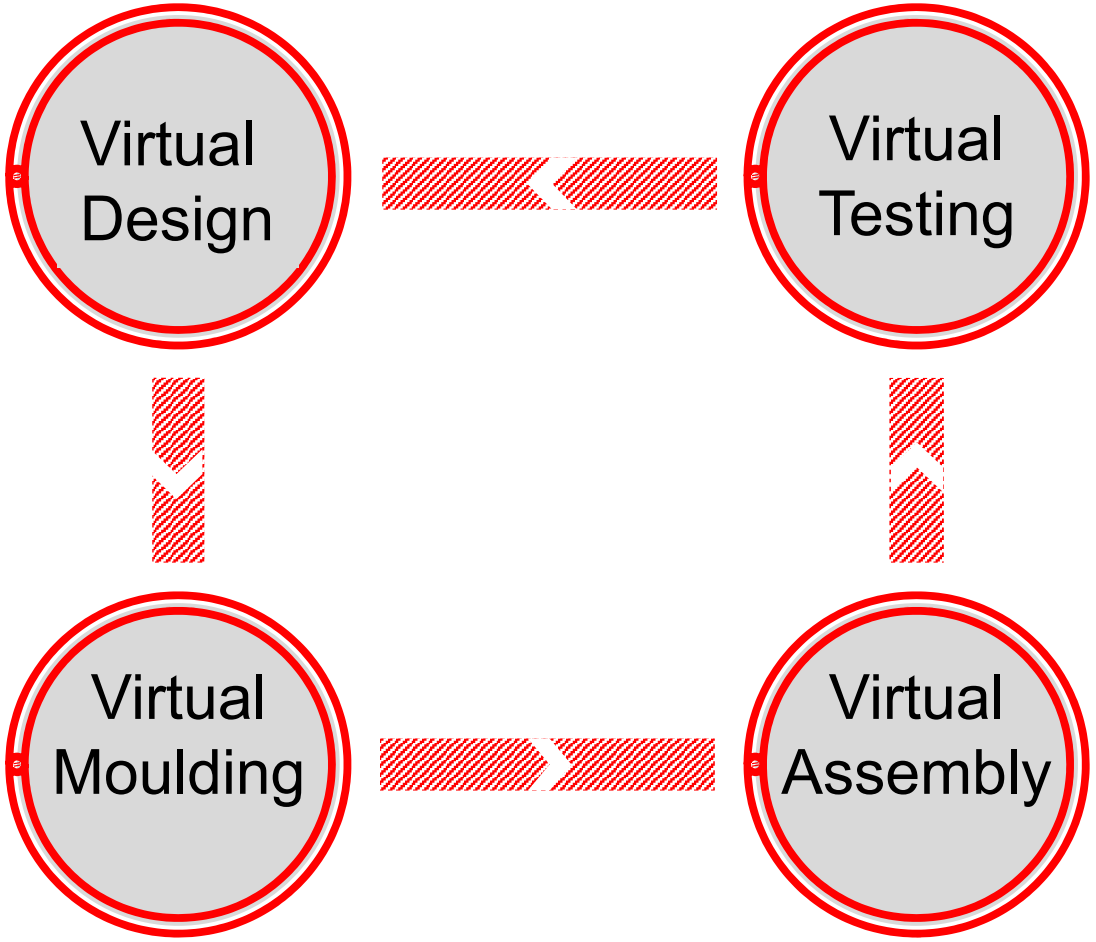
Work Process



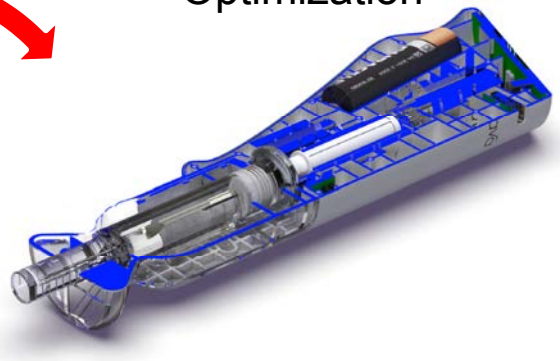


Virtual Assembly

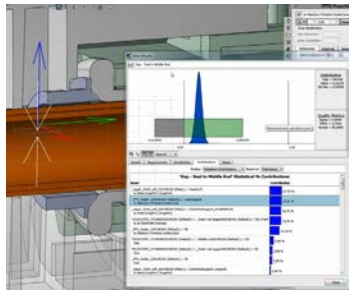
In the Simulation World of Molding, Material and Tooling Technologies

Assembly Process Definitions

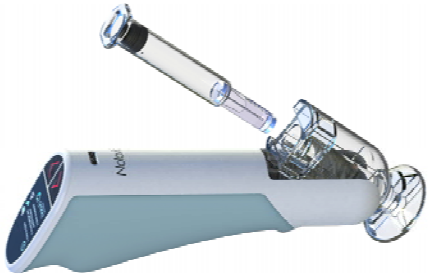
Design and Process Optimization



Assembly Process Verification KPOV



3D Assembly Model



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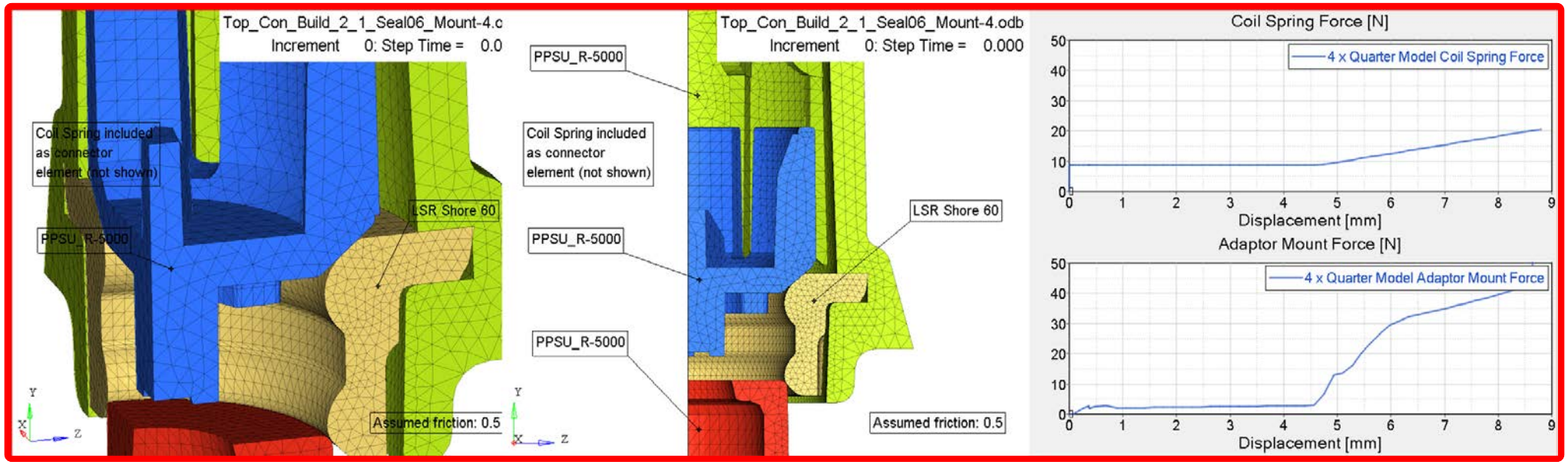
Process Development Assembly

Analytical modelling, DOE. Expert. Input

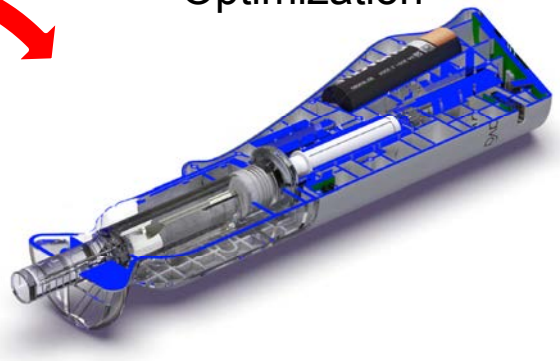


Virtual Assembly

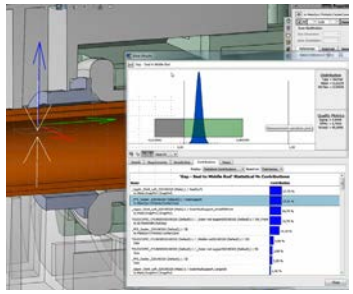
In the Simulation World of Molding, Material and Tooling Technologies

Assembly Process Definitions

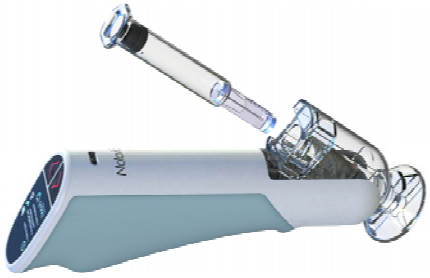
Design and Process Optimization



Assembly Process Verification KPOV

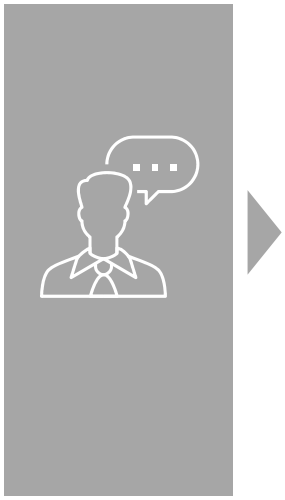


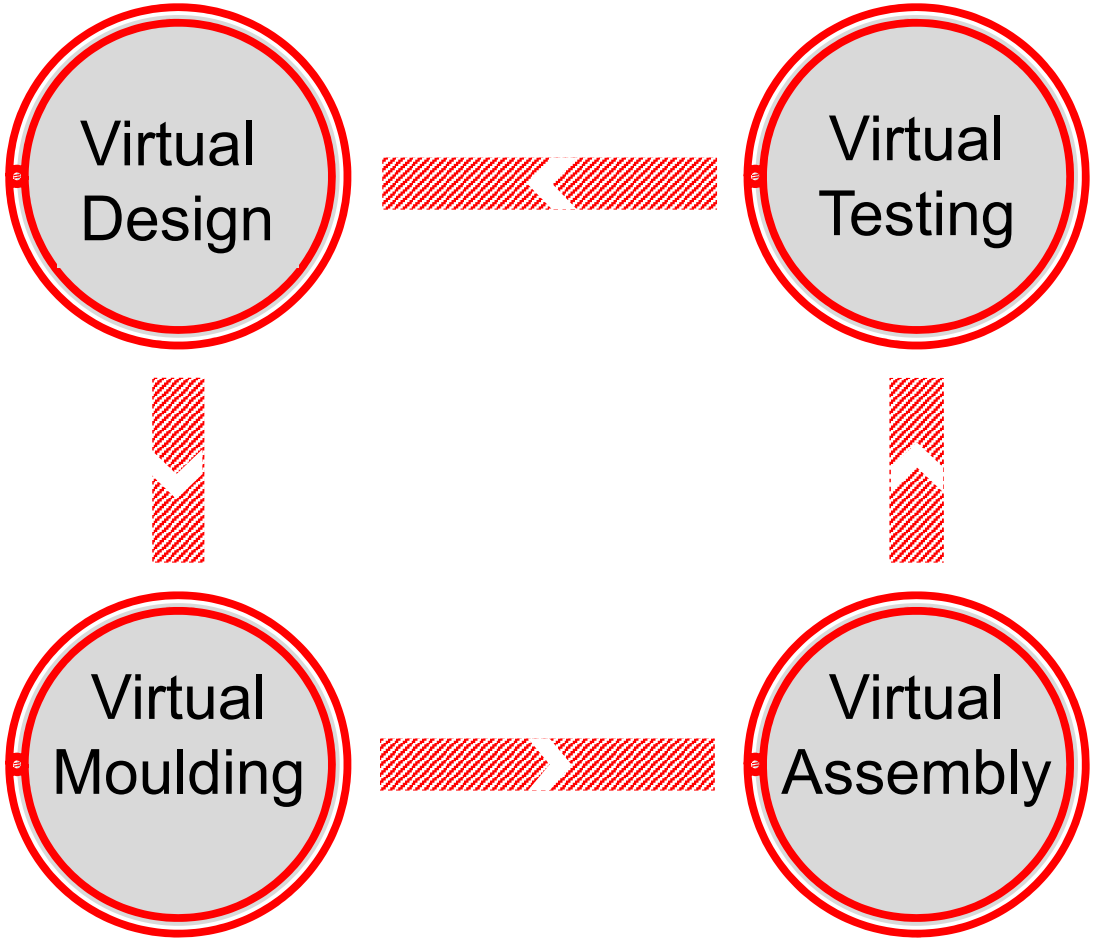
3D Assembly Model



Nolato

Work Process





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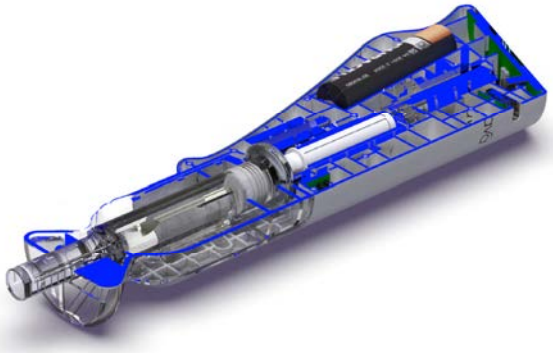
Virtual Testing

In the Simulation World of Analysis, Test Methods for Product Performance Testing

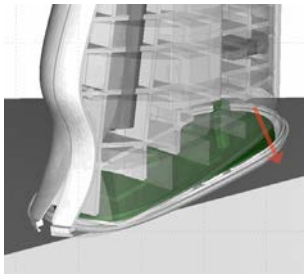
Product Requirement, Test Method Definitions

3D CAD Model Users

Product Performance Analysis



Design Optimization Input



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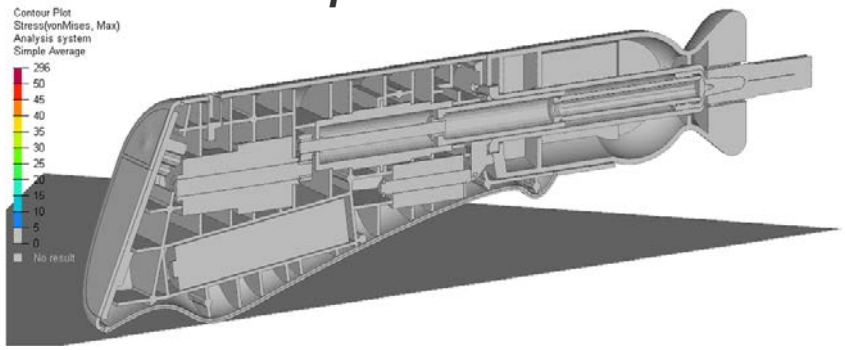
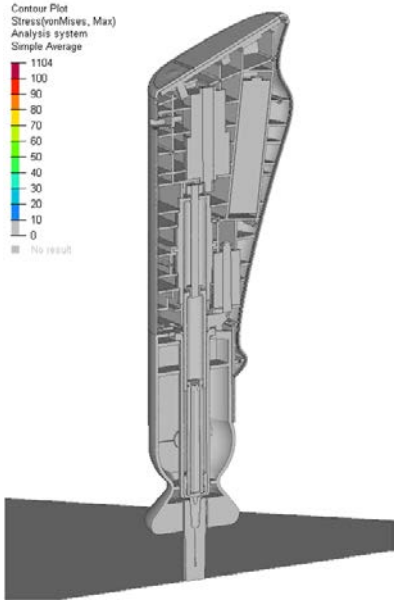
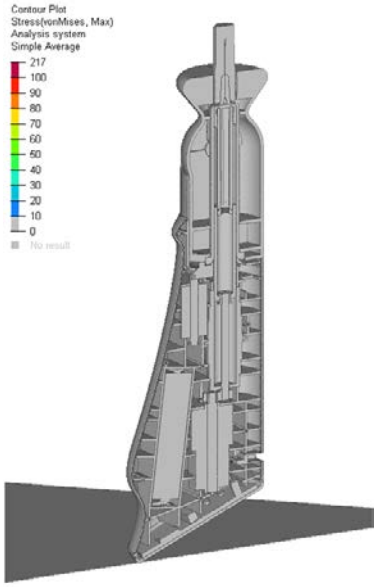
System

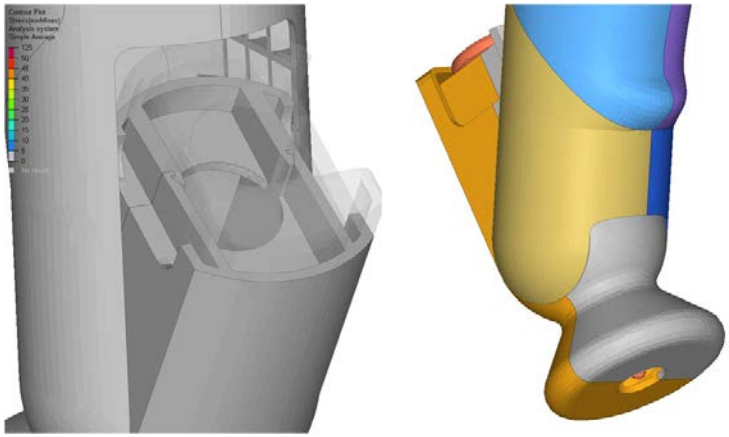
Drop tests



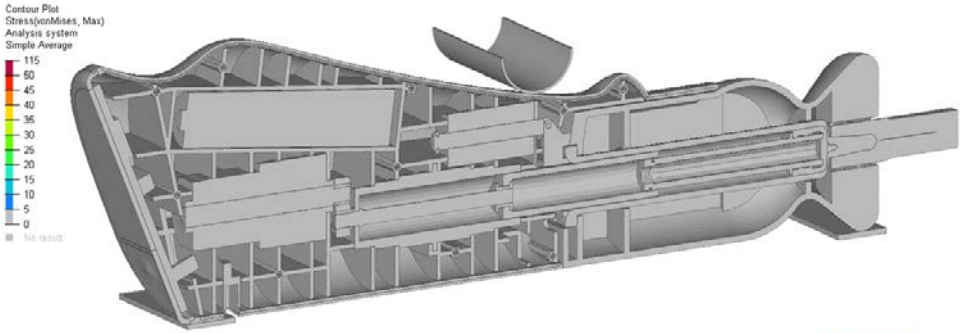




Refill mechanism overload



Bend test



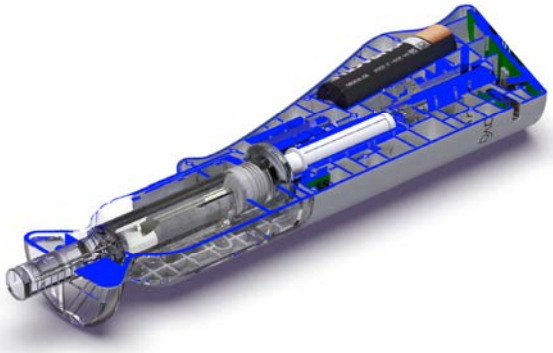
Virtual Testing

In the Simulation World of Analysis, Test Methods for Product Performance Testing

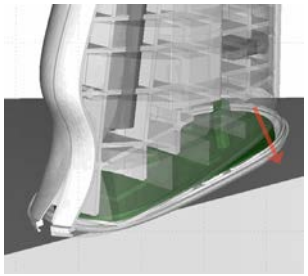
Product Requirement, Test Method Definitions

3D CAD Model Users

Product Performance Analysis



Design Optimization Input



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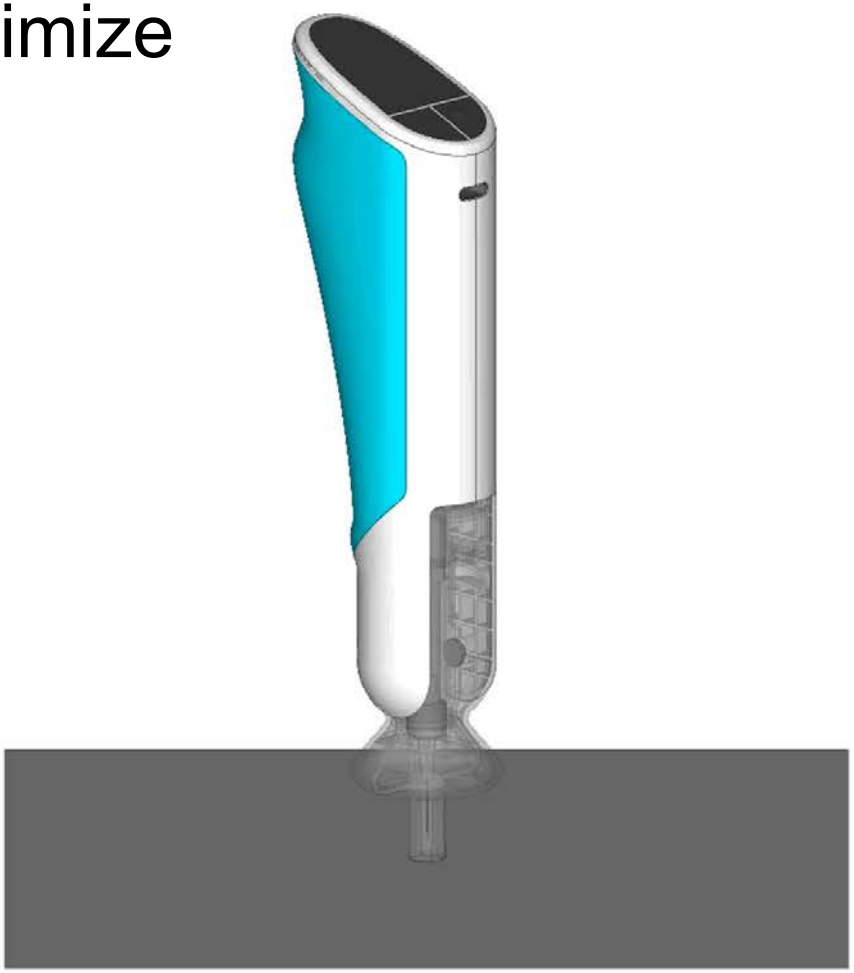
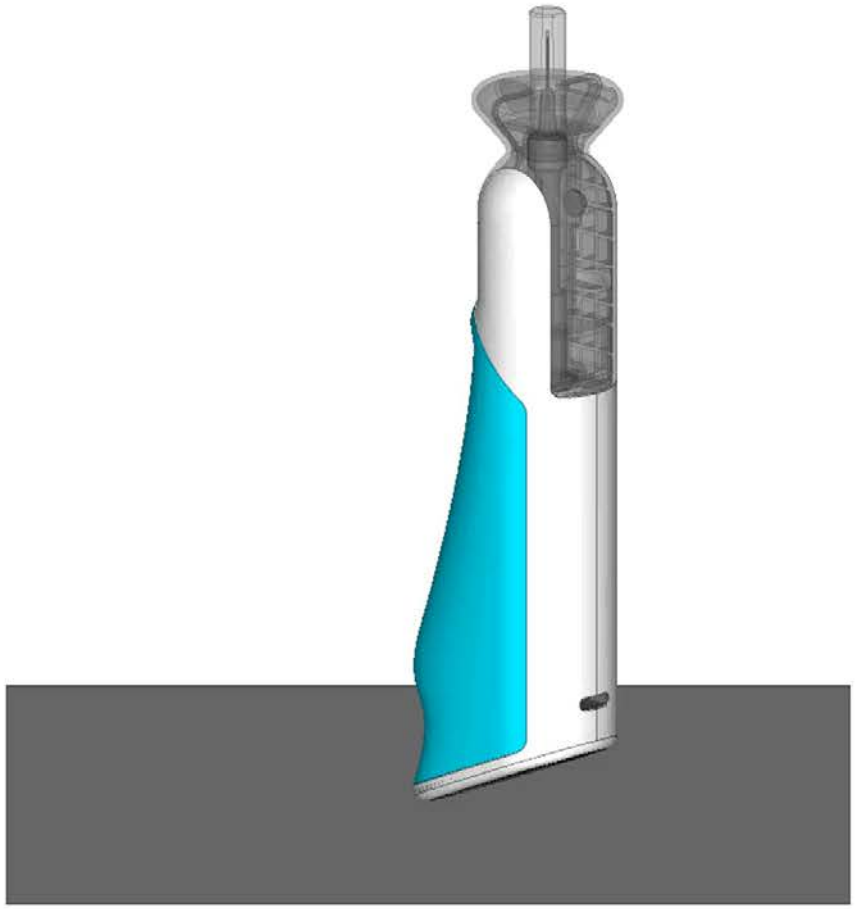
Optimize





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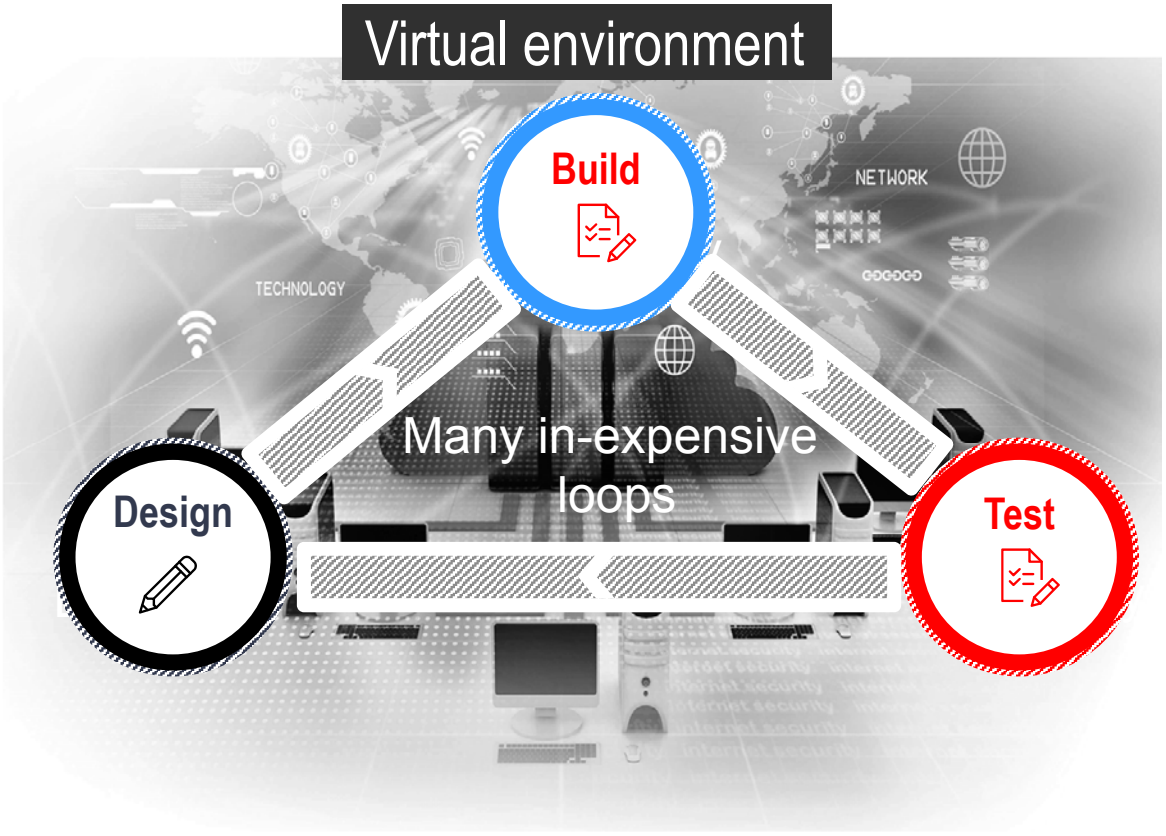
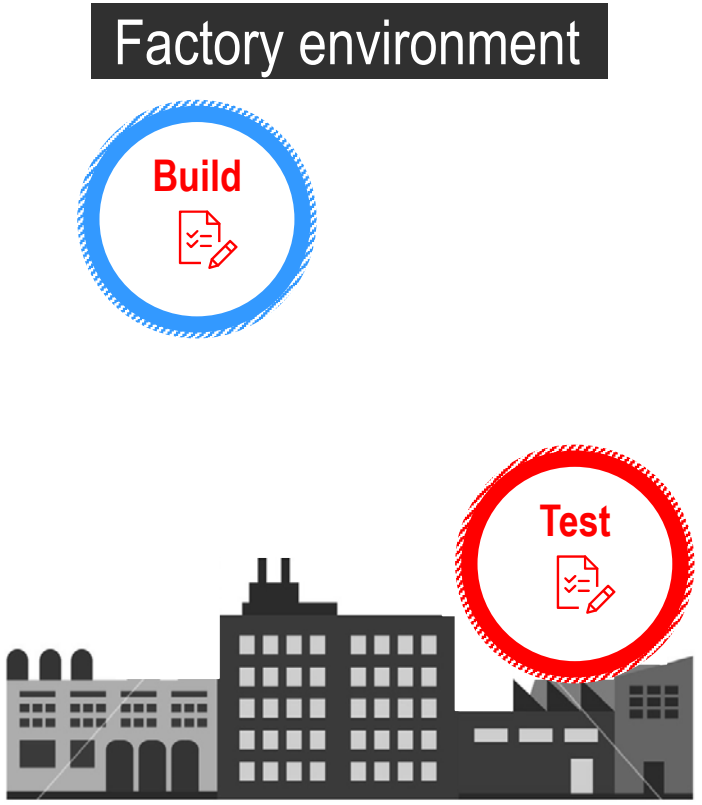
New way of industry execution – mainly based on analytical knowledge





Summary

Why Nolato Virtual Design Prototyping?

- Early elimination of key design risks.
- Early assessment of manufacturing requirements.
- Creation of in depth knowledge about design.
- Shorter Time to Market
- Environmentally friendly designs
- Cost efficient execution

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How unique is this?

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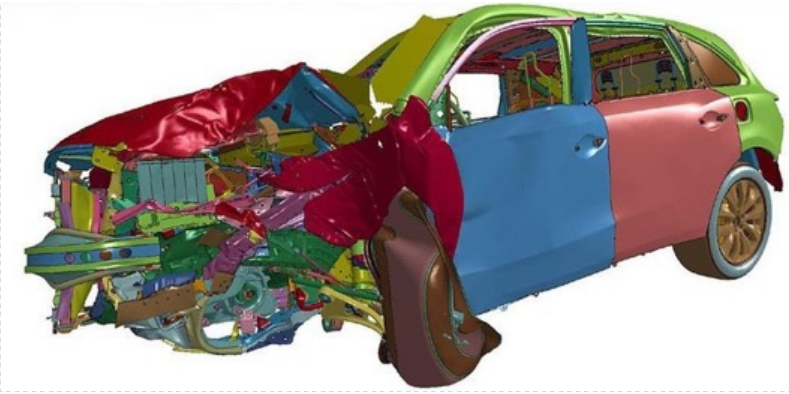
Virtual Design and Prototyping

Expected outcome, virtual



Real world validation

Courtesy: Honda

Product design in virtual environment - design is created, manufactured and evaluated using advanced simulations tools.

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