



TridenTech Engineering Pvt Ltd

About us

We are a IIT Madras Research park based company, operating out of Chennai and Bangalore

We provide engg solutions for various customer problems and help in accelerating product outcomes from research at premier institutions

Engineering analysis and Research Team



Team Profile

3 PhDs

3 Post Grads

2 Grads

Reji R V

Ph.D. in Mech Eng (University of Kerala, ISRO RESPOND Research Fellow)

Research and competencies

Research on Eco-friendly technologies, Heat transfer and fluid flow in an annular domain, Numerical analysis of SCO2 compressor

Jabir Edathol

PhD - " Patient specific modelling of blood flow in arteries". University of Kerala, 2018

Research areas:

Heat and mass transfer, Computational fluid mechanics, Patient specific blood flow modelling, Fiber membrane oxygenators, Condensation modelling in super sonic flows, External ballistics

Neeraj Paul Manelil

PhD in Mech Engg –IIT Madras

Research and competencies

Transitions in wake flow, fluid structure interactions, multiphase flows, automobile air conditioning and energy harvest and storage.

Jayprakash G

Energy specialist, Marketing and Business Development

Expertise : energy auditing, providing intelligent solutions which improve energy performance of systems and processes, leading to reduced operating costs. In doing so, execute opportunities which lead to reduced Environmental and GHG emissions

External consultants

Anil Nair, Phd (IISc), Post Doc(Leeds),CFD

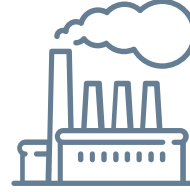
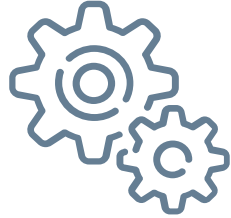
Fluidyn- Support on software and analytical aspects

Anil is a acclaimed authority on climate modeling using CFD. His expertise is in various aspects of fluid modeling and he guides us on the theoretical aspects.

Vaibhav Nadkarni MTech (IISc), Combustion

Vaibhav is a experienced technical manager at GE and has years of experience in combustion modeling and CFD. He is well versed in solving customer specific problems .

Consulting Domains



Defense

Aviation

Mechanical

Chemical
Pharma
Cement

Oil and Gas

Medical

Green tech

**Our engineering solutions can cater to
a wide range of industries**

Engineering analysis expertise

We have a team of combined
experience of 100 years

Software

 SIMULIA
ABAQUS

 CATIA

 SOLIDWORKS

 LS-DYNA

 MATLAB

 Ansys

 Flowmaster
Fluid thinking for systems engineers

 PLM Software
SIEMENS
NX

 SOLID EDGE

 fluidyn

 Tridentech Engineering
Accelerating outcomes

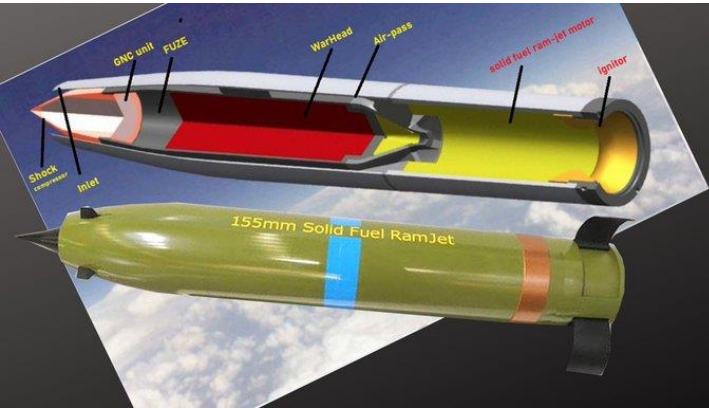
Chemical process analysis
Creep and fatigue
Reverse engineering
Drawings
Vibrations
Aerodynamics
Thermal analysis
Life cycle assessment
Contact analysis
Static analysis
combustion modeling
Heat Transfer
thermomechanical
blast wave propagation
Transient thermal
Solid modeling
Crash analysis
Root cause analysis

Expertise cloud

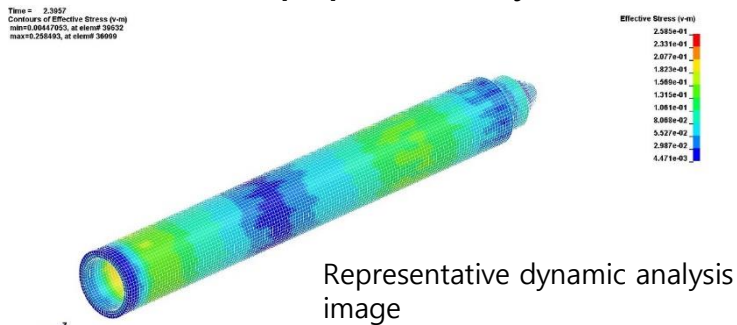
Expertise

Finite Element Analysis case studies

Defence engineering capabilities

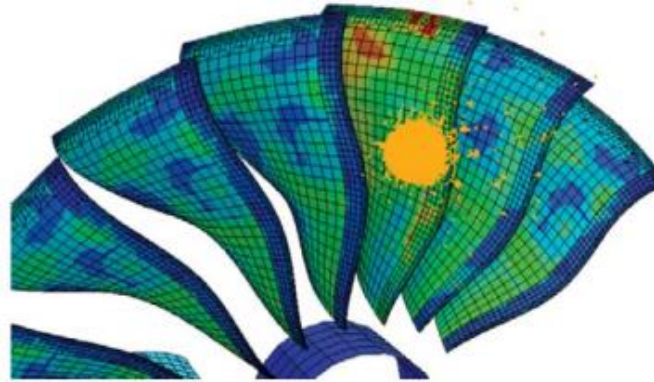


Open source representative image for
RAMJET propelled artillery

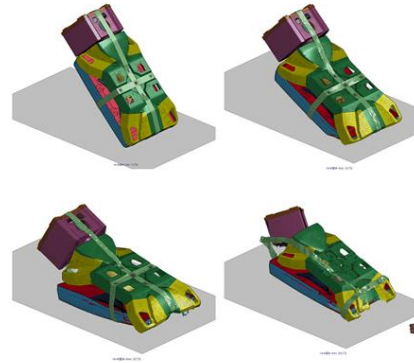


Representative dynamic analysis
image

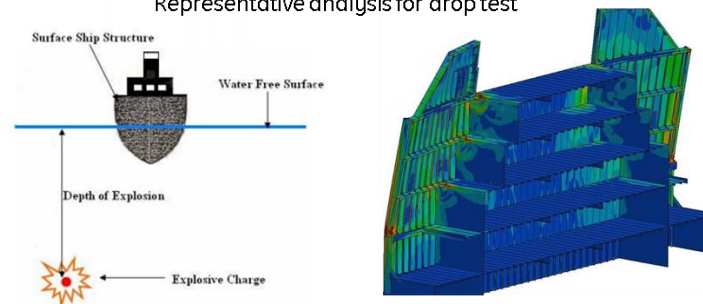
- ✓ Currently working on a enhanced range artillery project with IIT Madras, aerospace dept.
- ✓ The work involved is to design the shell for survivability and structural integrity under dynamic blast loads



Blade containment analysis



Representative analysis for drop test



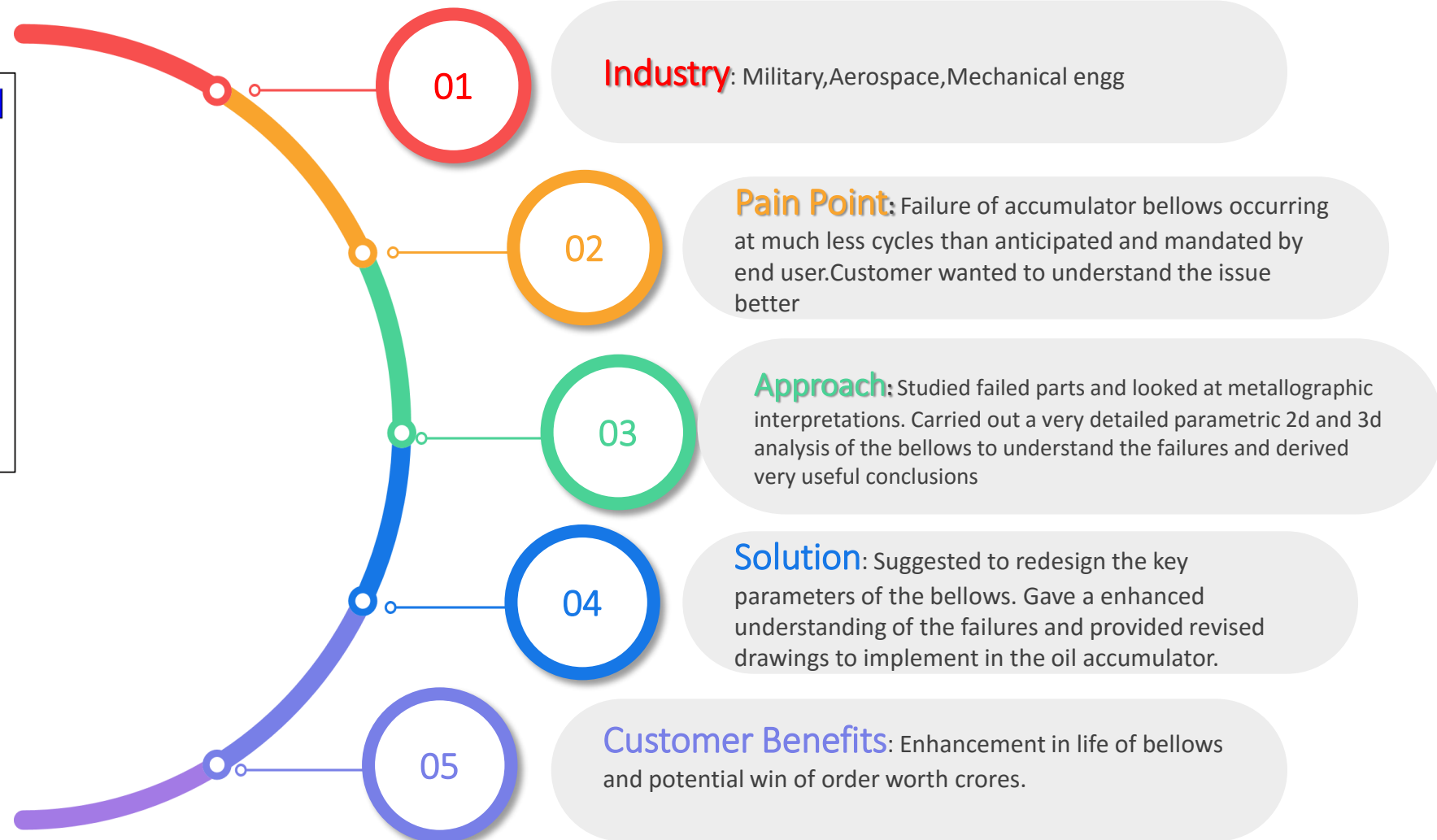
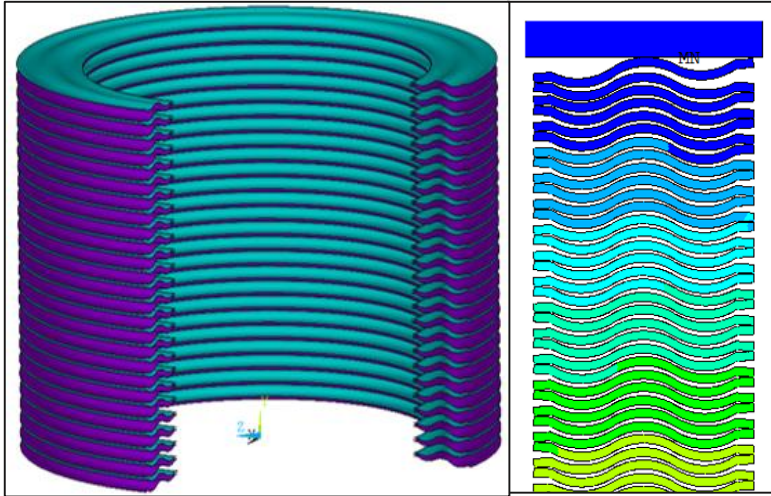
Undersea explosion analysis illustration

- Analysis for bird hit survivability of engine
- Blade liberation analysis
- Damage assessment and structural integrity of the engine
- Significant industrial expertise available with TridenTech in this regard.

- Drop test analysis for components subjected to impact loading
- Structural damage assessment.
- Numerous applications in civil and military domain

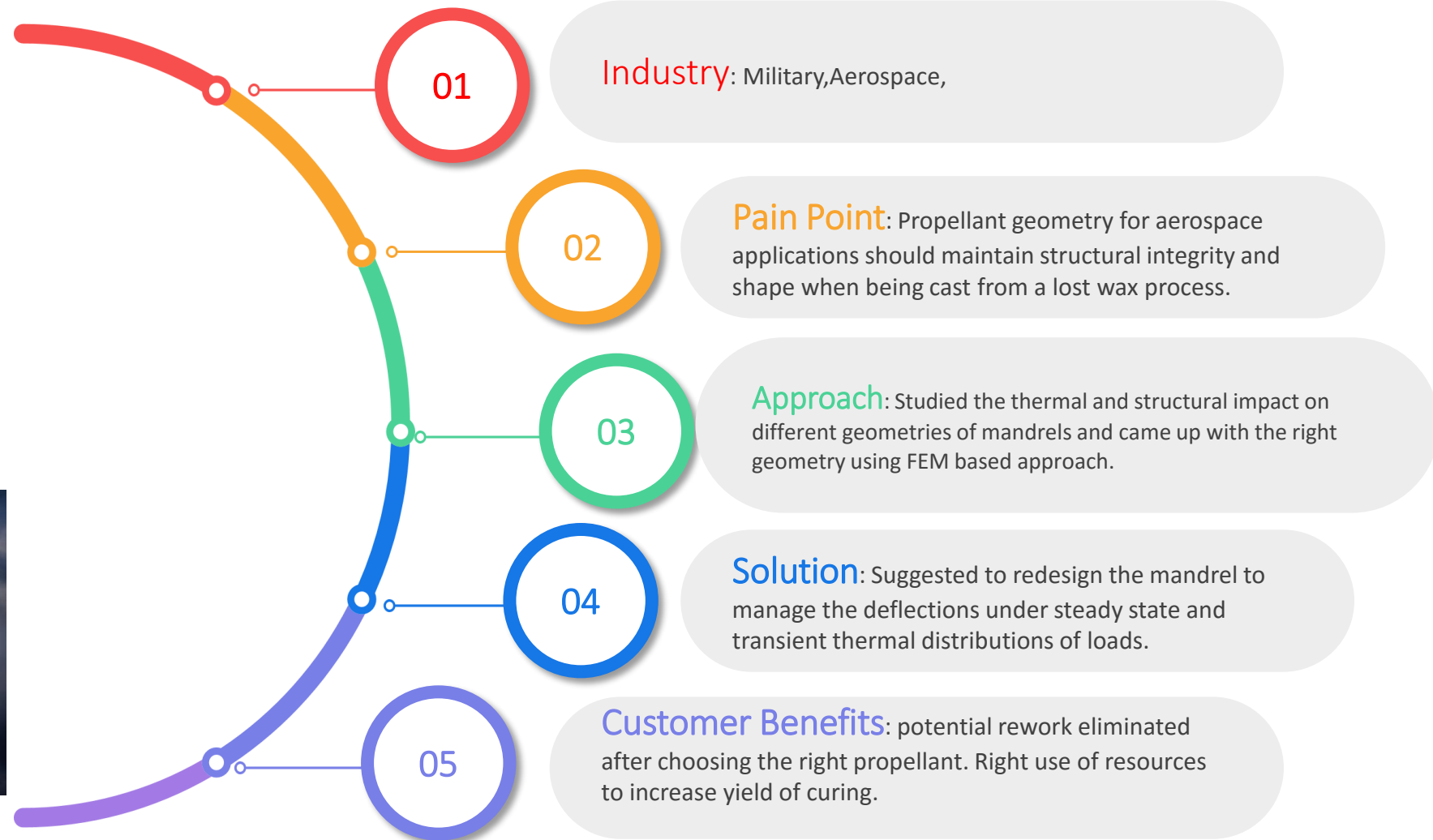
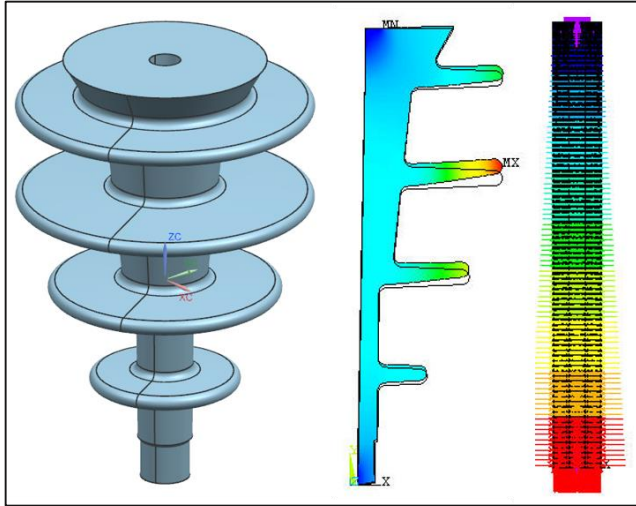
Apart from these TridenTech Engg can take up numerous other assignments in areas like underwater explosion, coupled field simulations etc.

1: Accumulator Bellow redesign



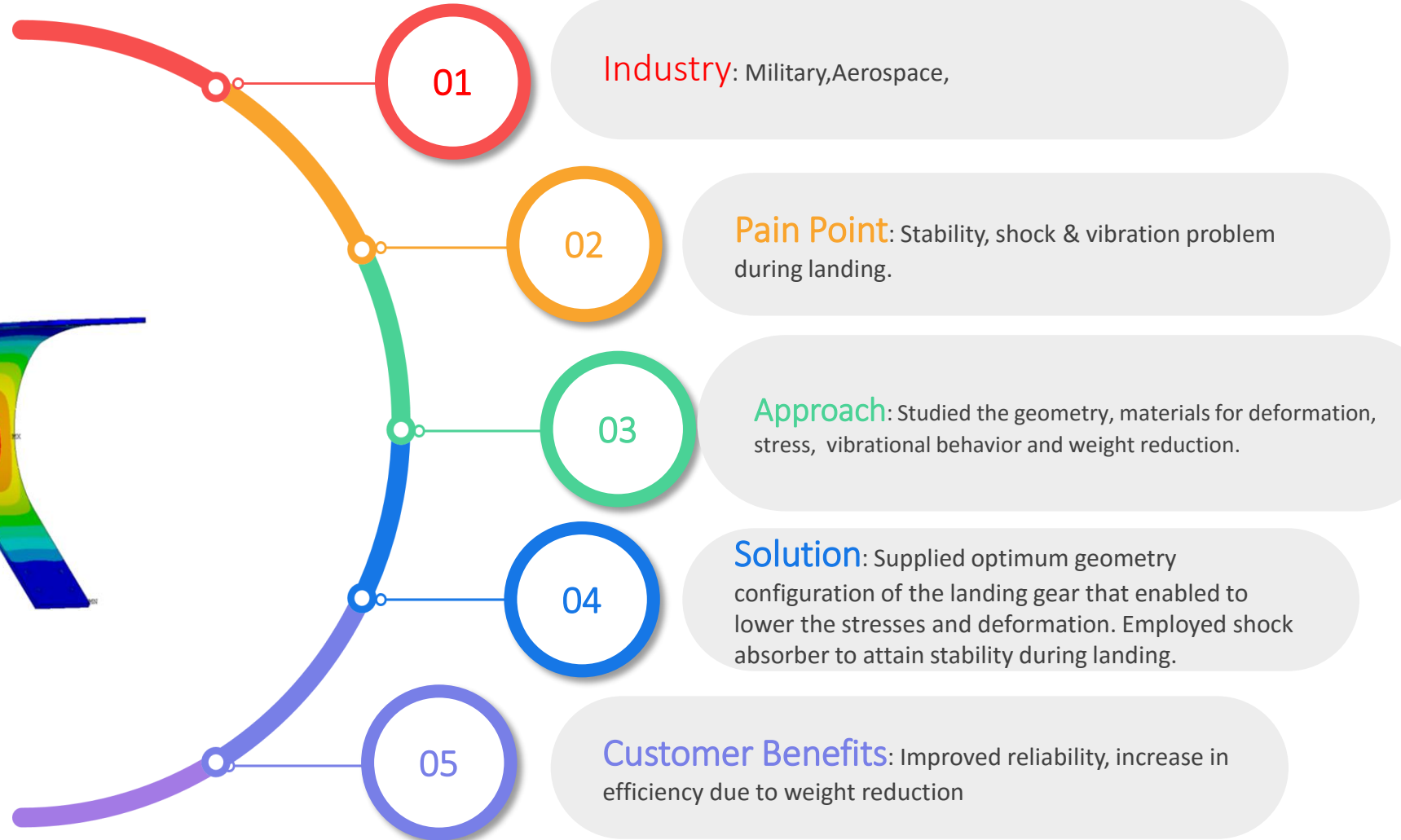
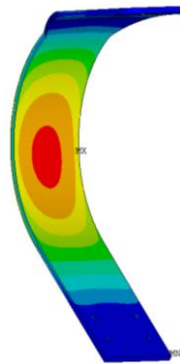
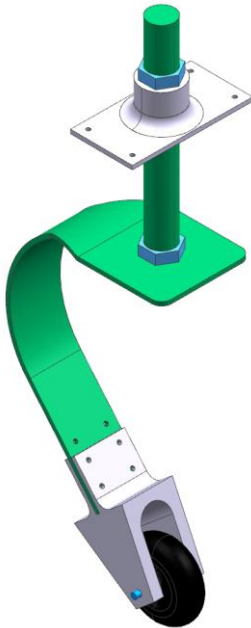
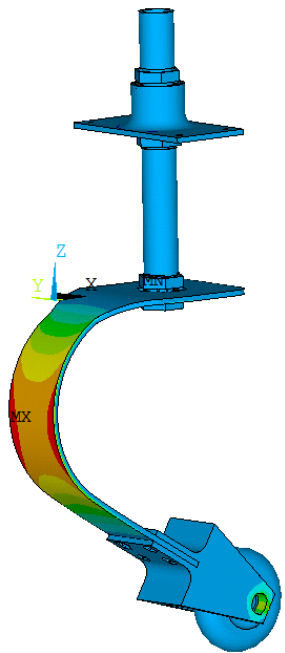
Critical mechanical elements need to be reliable. FEA provides means of assessing life of components under extreme loading conditions

2:Wax based propellant mandrel



New techniques for propellant manufacture require thorough evaluation prior to serial production

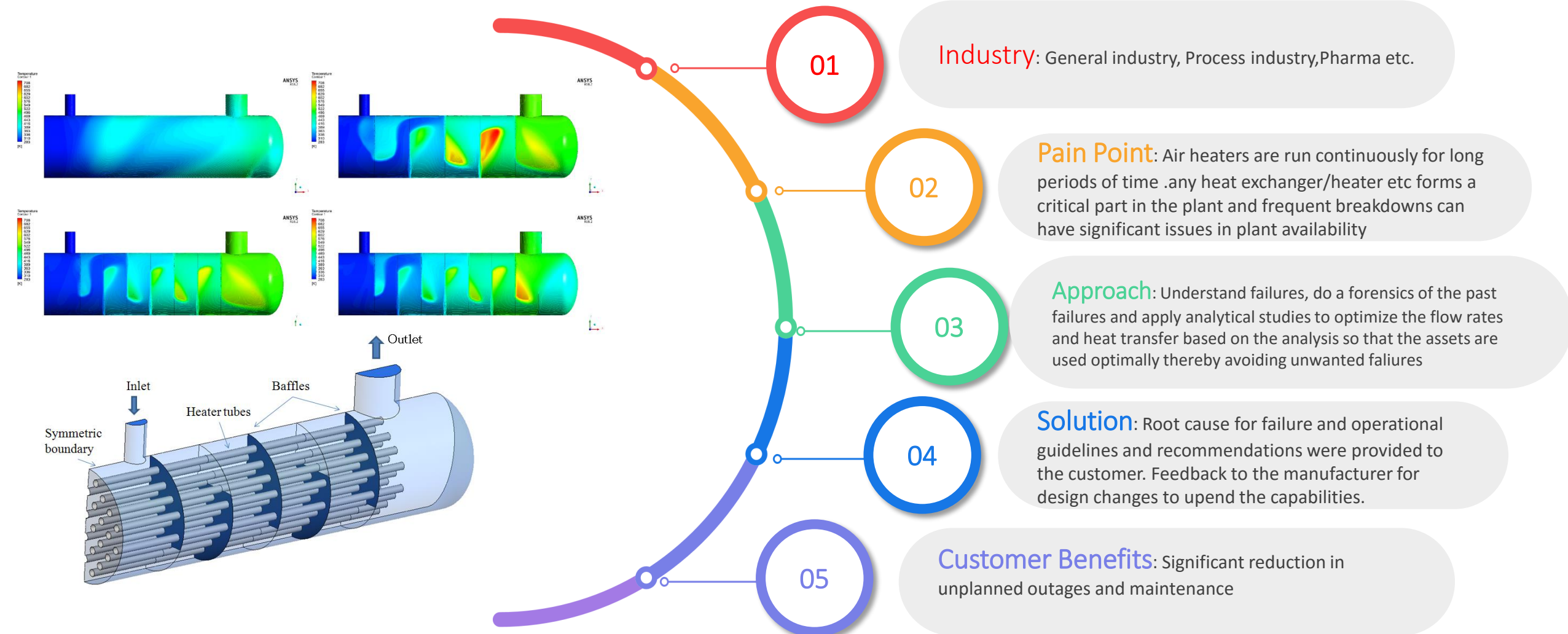
3: Redesign of Landing gear for Drone



Aerospace components have to be designed keeping in mind weight considerations.
FEA plays a vital role in design

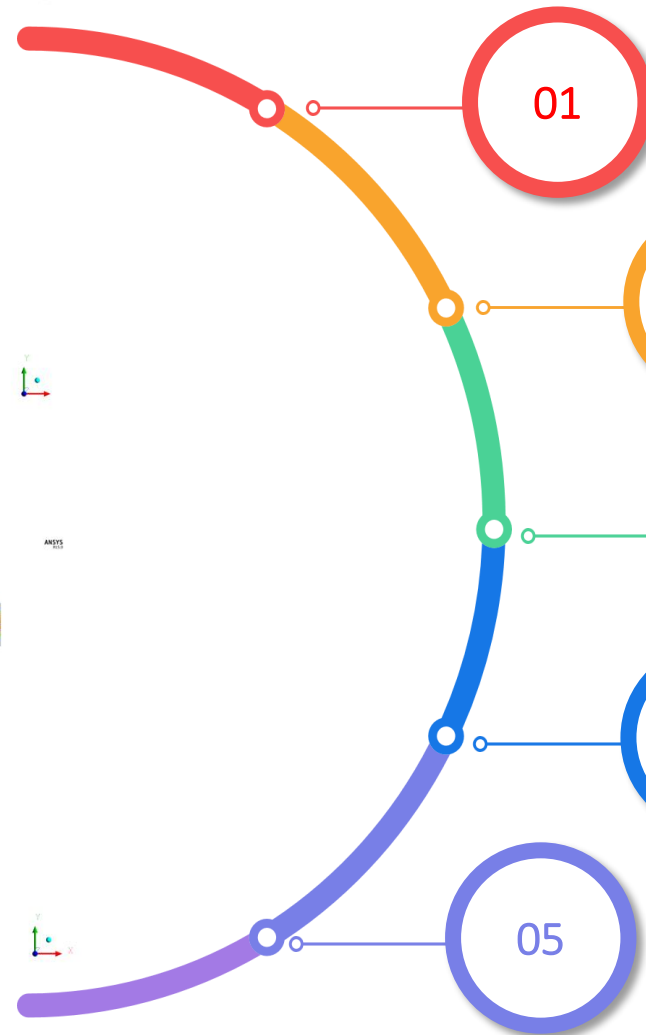
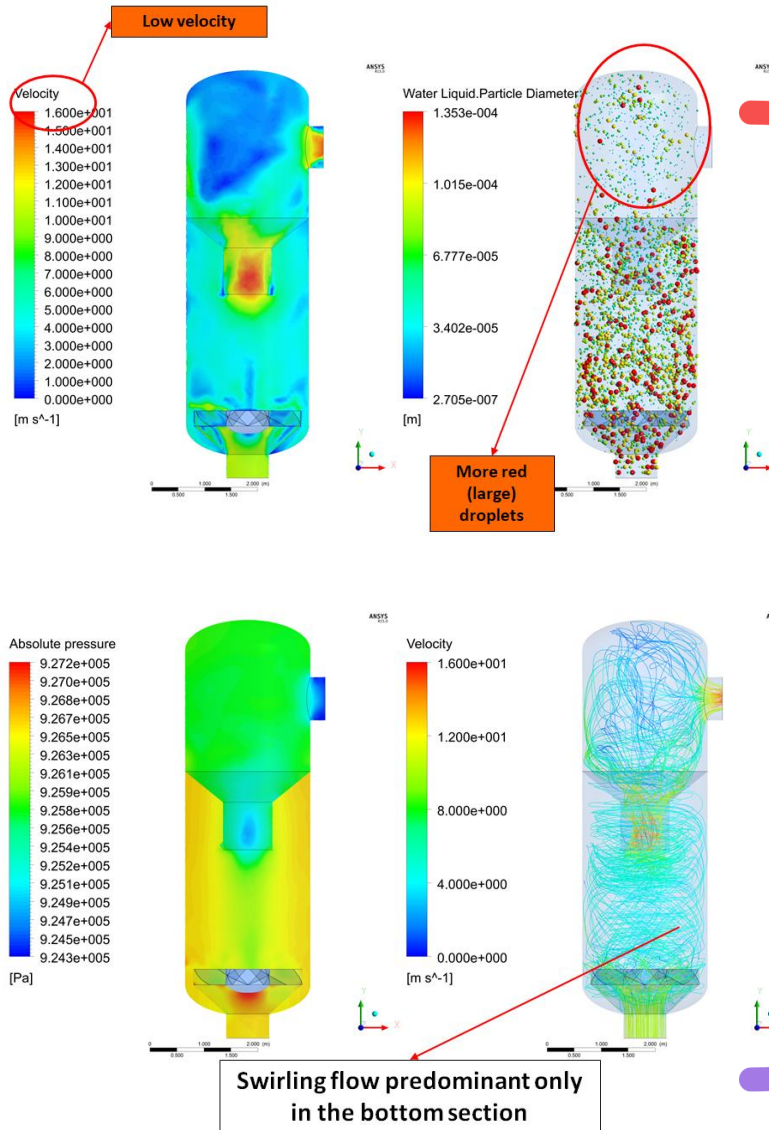
Aero thermal analysis case studies

1: Air heater design and analysis



Reliability of capital equipment is a significant measure of plant availability. Unscheduled outages can be avoided by designing for reliability

2: Water droplet separator design



Industry: Pharma, Consumer and Industrial, hospitality

Pain Point: water droplets in the air for clean rooms in Bio medical facilities and other such sensitive places can have significant negative ramifications. These water droplets need to be separated for supplying clean air

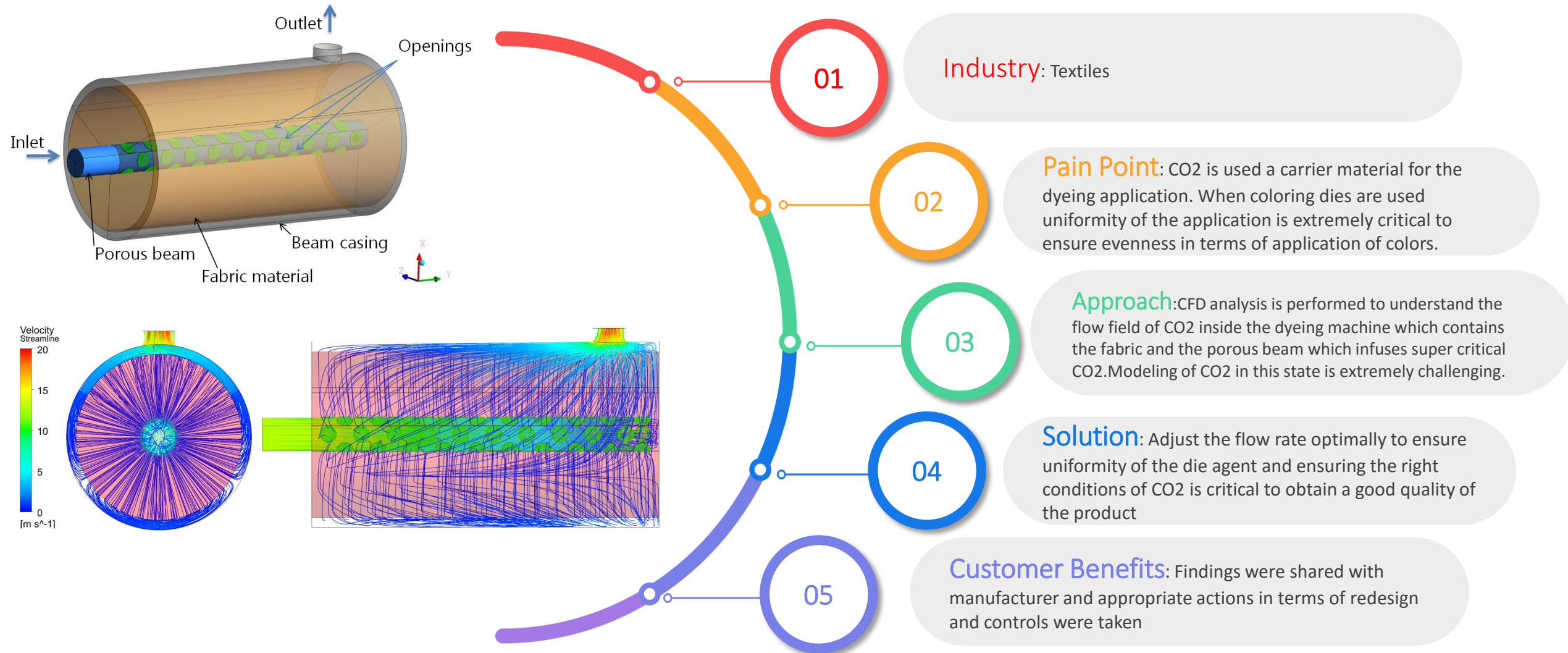
Approach: An understanding of the flow field inside the separator is critical to ensure that the air supplied to the rooms is clean. CFD analysis can provide precise aspects of the flowfield which needs to be redesigned to achieve clean air.

Solution: Redesign the chamber geometry to ensure adequate velocity in the cyclone to ensure larger droplets coalesce and drop off thereby ensuring clean air.

Customer Benefits: Significant improvement in air quality as mandated by the customer and less complaints.

Air quality and humidity regulation in majority of industries is a prime concern

3: Flow of dyeing material



Wastage of premium textile material and higher productivity gain can be achieved along with better colour quality

Energy Efficiency Services Portfolio

ISO 50001 EnMS



Water Audits



Energy Audits



HVAC Audits

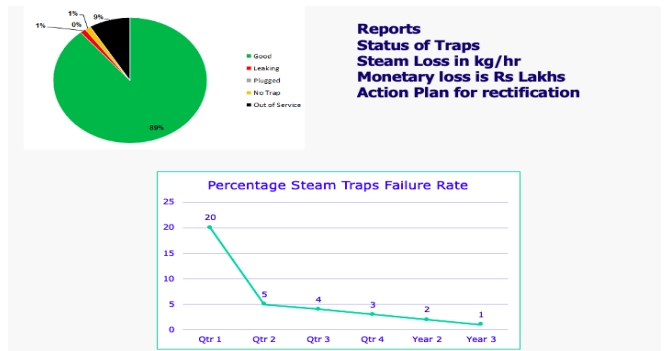


Steam Audits

STEAM AUDITS



Steam Trap Management



Our partners and clients

Partners



We are partnering with a broad set of industries to collaborate on our strategy of providing innovative state of the art solutions

Clients



Our esteemed clients have provided us great opportunities to showcase our capabilities.

Reach out to us



TridentTech Engineering Private Limited

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Shared delivery centre:

CADD centre adjunct center

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2nd, 2nd Stage, KHB Colony,
Basaveshwar Nagar, Bengaluru, Karnataka 560079

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Thank You