

## Infotech Enterprises: Fuelling Innovation – Next Gen Product Family (NGPF) engines – design of P&W PurePower® engine

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| <p><b>Service Provider:</b> Infotech Enterprises Ltd.<br/> <b>Customer:</b> Pratt &amp; Whitney, US<br/> <b>Vertical:</b> Aerospace &amp; Defence</p>  | <p><b>Customer Profile:</b> A USD 12.6 billion global engineering conglomerate and world leader in the design, manufacture and service of aircraft engines, industrial gas turbines and space propulsion systems</p>   |
| <p><b>Project Profile:</b></p> <ul style="list-style-type: none"> <li>• Contributing to design and development of the next generation gas turbine engine based on 20 years of R&amp;D by the OEM</li> <li>• Infotech &amp; client created collaborative Integrated Product Teams (IPT) with offshore-onsite model to work effectively on new product designs</li> <li>• Infotech contributed to 22 per cent of global collaborative engineering efforts of the project by staffing highly skilled mechanical and Aerospace engineers</li> <li>• Systems level aerodynamics, lubrication design, system dynamics and component lifting, etc., are some of the high value engineering activities that the Infotech team has worked on</li> </ul> | <p><b>Business Objective:</b></p> <ul style="list-style-type: none"> <li>• To design and develop a series of next generation aircraft engines that are environment friendly, Energy efficient with reduced operating costs for the airlines</li> <li>• To develop a scalable engine design for a wider thrust range that would enable faster product developments for future programmes</li> </ul> <p><b>Technical Objective:</b></p> <ul style="list-style-type: none"> <li>• The new design concept uses an advanced gear system, which allows the engine's fan to operate at a lower speed and the low-pressure compressor and turbine to spin at much higher speed, improving efficiency of the overall turbo machine</li> <li>• These new generation engines are expected to provide improvements in fuel burn (-16 per cent), engine noise(-50 per cent to CAEP6), emissions (-50 per cent) and operating cost (-20 per cent) leading to overall savings of USD 1.5 million per aircraft per year</li> </ul> |
| <p><b>Duration of the Project:</b> Ongoing since February 2008<br/> <b>Tools/Technologies Used:</b> State-of-the art design &amp; simulation software like ANSYS, UG, Isight and many client proprietary tools and technologies</p>  | <p><b>Team Description:</b><br/>         Size: 200+ full-time engineers<br/>         Profile: Design &amp; validation experts</p>  |
| <p><b>Awards and Recognition:</b></p> <ul style="list-style-type: none"> <li>• Popular Science Magazine Picks Pratt &amp; Whitney's PurePower® PW1000G Engine "Top Aviation Technology" with 'Best of What's New Award'</li> <li>• The engine has been selected for the Mitsubishi MRJ, Bombardier CSeries and Irkut MC21</li> </ul>   | <p><b>Results Achieved</b></p> <p><b>Key Advantages:</b></p> <ul style="list-style-type: none"> <li>• Infotech engineers proposed more than 100 design concepts and piloted more than 65 product reviews</li> <li>• Through best practices and mature processes, Infotech engineers aided a faster development cycle with a much lower cost</li> </ul> <p><b>Innovations:</b> Process automation done as a part of the project has led to significant cost savings of close to USD 1 million annually</p>  |