SARAVANAKUMAR

R&D Project manager

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EXPERIENCE

R&D Project manager
03/2016 - Present

Mann + Hummel Water & Fluid Solution GmbH
Germany

Overview:

- **Led the development** of the M+ 100/200m2 **modular module design, achieving a 30% cost saving** compared to the previous generation.
- **Design and Built** BIO CEL L 2 **MBR module**, resulting in a **50% steel price** and significant assembly time reduction.
- **Scaled up the XL 2 design** from L 2, demonstrating expertise in **project scaling and optimization.**
- **Developed and implemented** automation solutions for assembly lines, **saving €100k** compared to vendor quotes.
- **Rectified a design issue** in the Trapeze double cassette, **achieving cost savings** and **improved tolerance to misalignment.**
- **Created standardized drawing methods** and completed 3D models and drawings for all BIO CEL products.
- **Developed and transformed a siphon aerator Idea** into a functional prototype achieving up to **30% reduction in air consumption** while enhancing performance.
- **Led the scale-up proposal of tubular membrane production**, for 50% increase in output while **optimizing process efficiency to minimize costs and maximize quality**.

R&D Engineer
09/2011 - 03/2016

Mann + Hummel Ultraflo Pte Ltd
Singapore

Overview:

- **Developed the Aquadyn and Pure Ultra UF modules**, now **flagship products** in the hollow fiber filtration segment.
- **Led the development** of **Modular and scalable filtration rack** with the integrated end-cap design which enables d**irect coupling of modules** reducing the need for additional piping.
- **Supported the enhancement of membrane spinning machines** by optimizing components and making targeted modifications to improve performance and efficiency.
- **Designed and built** 90% of **lab test equipment & pilot plants**, including cyclic test benches ensuring precise **membrane characterization and durability testing**.
- Submitted **two patents,** demonstrating innovation and expertise in filtration technology.
- **Spearheaded supplier sourcing initiatives** in China, identifying cost-effective **3D printing** & **molding partners** to improve R&D efficiency.
- Provided **technical support and design expertise** for global R&D projects,collaborating with teams in **Kunshan during the transfer of the Hollow Fiber Aquadyn division** from Singapore.

Mechanical Design Engineer
07/2010 - 09/2011

Manufacturing Innovative Technologies Pte Ltd
Singapore

Overview:

- **Developed design concepts** and created detailed **assembly and part drawings** for mechanical systems.
- **Managed standard and production part lists**, ensuring accuracy and efficiency in manufacturing.
- **Led teams in testing and commissioning** of mechanical systems, ensuring project success.
- **Designed and assembled automated machines**, diagnosing and resolving equipment failures.
- **Provided design support for product modifications** and **cost-reduction initiatives.**
- Negotiated with suppliers to **optimize part procurement,** ensuring timely delivery while maintaining specifications.

SUMMARY

18+ Years of Impactful Engineering

Driving sustainable change through filtration & wastewater: As a seasoned Mechanical Engineer and Project Manager, I blend technical expertise with leadership to engineer innovative, **scalable, and cost-effective** solutions. At MANN+HUMMEL, I led a team in exceeding customer needs and bend the sustainability curve.

Beyond traditional design: My skill set expands beyond Solidworks, AutoCAD, and FEA, encompassing experience in automated machine design. But true innovation lies in collaboration.

Passionate about impact: I actively seek **lucrative opportunities** where I can leverage my expertise and foster collaborative environments to create a **lasting positive impact on our planet.**

INDUSTRY EXPERTISE

Flat sheet / Hollow Fiber module Design

Mechanical design and troubleshooting

Automation and process optimization

Project management

SKILLS

Autocad · Solidworks · Creo · NEi Fusion · Design optimization · Manufacturing processes

LANGUAGES

Tamil	Native	●●●●●
English	Proficient	●●●●○
German	Intermediate	●●○○○

EXPERIENCE

Mechanical Design Engineer
08/2008 - 12/2009

Interface Synergy Pte Ltd — Singapore

Overview:

- **Developed design concepts** and created detailed **assembly and part drawings** for mechanical systems.
- **Managed standard and production part lists**, ensuring accuracy and efficiency in manufacturing.
- **Led teams in testing and commissioning of mechanical systems**, ensuring project success.
- **Designed and assembled automated machines**, diagnosing and resolving equipment failures.
- Provided **design support for product modifications and cost-reduction initiatives**.
- **Negotiated with suppliers** to **optimize part procurement,** ensuring timely delivery while maintaining specifications.

Mechanical Engineering Technician
11/2006 - 08/2008

Infineon Technologies Asia Pacific Ltd — Singapore

Overview:

- Set up, troubleshot, and serviced **automated IC packaging equipment**, ensuring compliance with **Good Manufacturing Practices (GMP).**
- Diagnosed and resolved **process failures,** implementing corrective actions to **improve equipment reliability.**
- Assisted in the **qualification and release of new equipment**,ensuring seamless integration into production.
- Provided **engineering and line support**, conducting equipment conversions, repairs, and maintenance.
- Supported the introduction of **new IC packaging technologies**, optimizing production efficiency.
- Participated in **Total Preventive Maintenance (TPM) and 5S initiatives**, contributing to continuous improvement efforts.

EDUCATION

Bachelor Of Mechanical Engineering (Hons)
2011 - 2013

University Of Sunderland -Tyndale Education Group , Singapore.

Diploma in Mechanical Engineering
1998 - 2001

Coimbatore Institute of Technology, Coimbatore, India.

KEY PROJECTS

Krystal UF Module Assembly Automation.
2009 — Singapore

Led a major project to fully automate the Krystal hollow fiber module production line

- Achieved 20% increase in production volume and 10% reduced rejection rates.

High Pressure UF/NF hollow fibre module Development.
2013 — Singapore

Led the development of High pressure hollow fibre module development.

- Completed and implemented the Modular design which can withstand up to 6 bar Operating pressure.

Bio-Cel L /XL module Design Optimization.
2018 — Germany

Completed Optimization of Bio-Cel L/XL module design.

- Achieved 50% steel price and significant assembly time reduction.

Bio-Cel M+ Module Design
2021 — Germany

Led the development of the M+ 100m2 modular module design.

- Achieving a 30% cost saving compared to the previous generation.