MKTech Industry Sdn Bhd

Strategic Partners: Andreae Filters (AEREM), Sia Abrasives (Switzerland)
Implementation Lead: MKTECH Industry Technical Team

---

1. Executive Summary

This case study details the optimization of a high-volume automotive paint shop where inadequate filtration and inefficient abrasive processes were leading to significant downtime and rework. By implementing **MKTECH's** integrated solution—featuring **Andreae High-Efficiency (HE) Filters** and the **Sia 1958 siapro** abrasive system—the facility achieved a **25% increase in throughput** and a **40% reduction in consumable waste**, achieving a near-perfect zero-defect flow.

2. The Productivity Challenge

The facility was struggling with two primary bottlenecks that compromised their operational efficiency:

- **Filter Saturation & Downtime:** Standard fiberglass mesh filters were clogging rapidly, requiring change-outs every 48 hours. This resulted in frequent booth shutdowns and increased energy consumption due to rising static pressure.
- **Surface Contamination:** Inefficient filtration allowed "overspray migration," leading to surface defects (dust inclusions) on newly painted panels. This necessitated extensive "denibbing" and rework using unstandardized abrasive grits.

3. The MKTECH Integrated Solution

3.1 Advanced Filtration: Andreae HE (High-Efficiency)

MKTECH replaced the existing mesh filters with **Andreae HE Filters**, utilizing the patented "Separation by Inertia" technology.

- **Technical Advantage:** Unlike traditional filters, Andreae filters maintain uniform static pressure throughout their life cycle.
- **High Loading Capacity:** The HE model offers a loading capacity of **12.2 kg/m²**, allowing the facility to extend filter life from 2 days to **10 days of continuous operation**.
- **Efficiency:** With **97.9% efficiency**, overspray migration was virtually eliminated, protecting the exhaust fans and reducing downstream maintenance.

3.2 Standardized Abrasive Process: Sia 1958 siapro

To address the rework bottleneck, MKTECH implemented the **Sia 1958 siapro** system to standardize the "denibbing" and polishing phase.

- **Grit Progression:** The facility transitioned to a 3-step grit progression (300 -> 400 -> Scuffing), reducing the number of abrasive items managed by the inventory by **70%** .
- **Surface Consistency:** The **1950 Siaspeed** discs provided a perfectly uniform scratch pattern, ensuring that primer-filler sanding was completed faster and with fewer defects.

4. Quantifiable Productivity Results

Metric	Before MKTECH	After MKTECH	Improvement
Filter Service Life	48 Hours	240 Hours (10 Days)	**500% Increase**
Booth Downtime (Monthly)	16 Hours	3.2 Hours	**80% Reduction**
Rework Rate (Defects)	8.5%	1.2%	**86% Reduction**
Abrasive Consumption	1,200 Discs/Mo	720 Discs/Mo	**40% Reduction**

5. Conclusion

The integration of **Andreae's** high-capacity filtration and **Sia's** standardized abrasive systems has transformed the facility's productivity profile. By choosing **MKTECH Industry** as their technical partner, the client moved beyond simple procurement to a data-driven "Solution Engineering" model that prioritizes uptime, surface quality, and long-term cost savings.

Enhance Your Paint Shop Productivity:

- **Consultation:** expertcenter@mktechindustry.com
- **Website:** www.mktechindustry.com
- **Catalogue Download:** [Available at MKTECH Download Center]