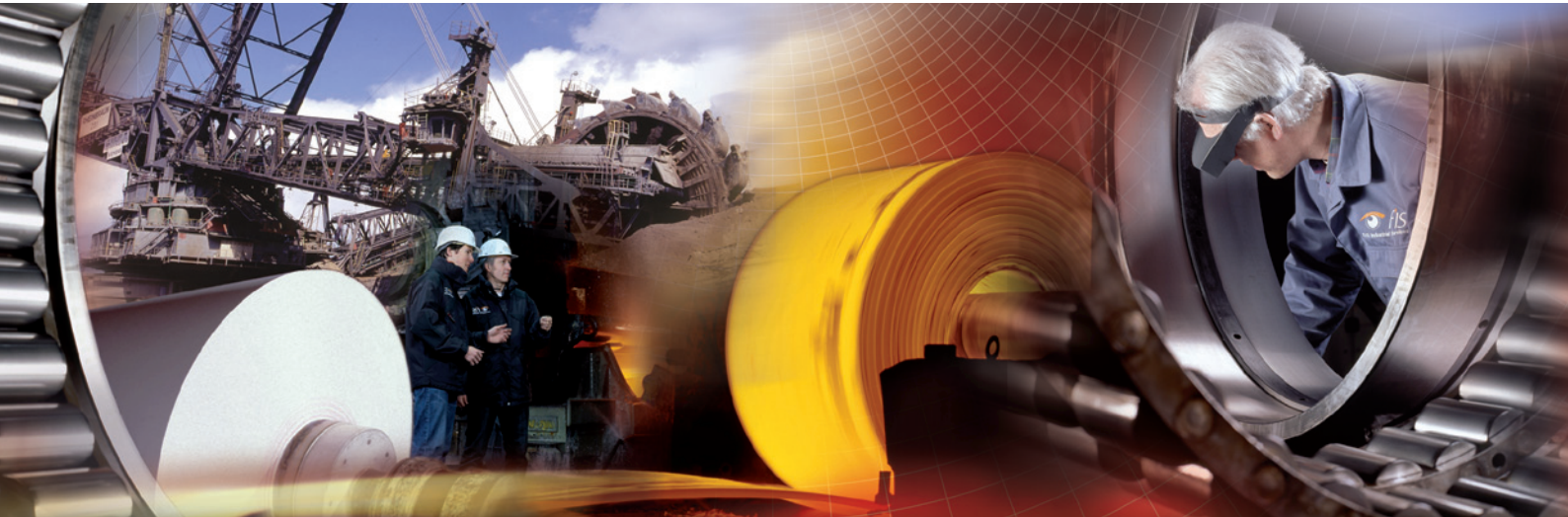


Smart Performance Program



Monitoring Increases the Availability of Critical Machines

Industry: Chemical Industry

Customer: PURAC, Rayong (Thailand)

PURAC is the world's largest and most experienced producer of natural lactic acid, derivatives, gluconates, lactides and polylactides. PURAC (Thailand) Limited is the newest and largest lactic acid plant in the world, located on an area of 70,000 square meters in Asia Industrial Estate, Banchang, Rayong. This new world-class production plant is expertly designed to optimize capacity and productivity of Purac, while being extensively equipped with latest lactic acid technology.

Challenge for Schaeffler

In the lactic acid plant in Thailand, opened in 2007, PURAC detected bearing failures after having carried out a commissioning of pumps and agitators. About 200 machines are operated in this plant. Approximately half of them are classified as so called "critical" machines. As high machine and plant reliability is an absolute must for the customer, he had entrusted several companies with vibration measurements.



Technical Information about the Plant

Plant capacity:

985,000 tons/year

Number of monitored machines:

Approx. 200 machines

Types of monitored machines:

- Pumps
- Agitators
- Motors

Schaeffler Solution

In competition with other service companies FAG Industrial Services (FIS) was able to reveal the reasons for the bearing problems in a vibration analysis report. For this purpose Schaeffler Field Service Engineers conducted vibration measurements using FAG Detector III. Impressed by this good service, PURAC placed a first service contract with FIS. Until today, FIS has not only enlarged the monitoring to more pumps, agitators and motors but was also entrusted with the examination of the complete plant as exclusive service provider. In the near future the monitoring will be extended to more critical pumps like those of chemical tanks and water treatment plants.

Customer Benefit

Regular condition monitoring measurements helped PURAC to detect emerging damage in good time. This way the company was able to save about five days downtime. This amounts to ten percent of the yearly production, as the plant does not produce under full capacity. All in all the following savings were realised:

Yearly production capacity:	100,000 t
Actual market price of lactic acid:	1.70 €/kg
Breakdown costs per hour/day:	9,000 €/216,000 €
Avoided downtime due to condition monitoring:	5 days/year

Annual savings: *more than 1 million Euro*

Since the monitoring was started, the maintenance staff of the customer is better informed about the condition of its critical machines. This allows to schedule necessary maintenance work and increase the plant's availability.

What's special

This solution is applicable to all customers who need monitoring of process critical machines.

Technical Information about the Solution

Monitoring device:
FAG Detector III

Monitoring and single machines' reports frequency:
Monthly

Summarized total machine condition report:
Quarterly



Contact details for worldwide contact persons as well as further **Smart Performance Solutions** can be found on our homepage

www.smartperformanceprogram.com