



# EMOS® ADVISORY HISTORICAL ANALYSIS

## IMPROVE PLANT OPERATION AND SAFETY WITH EVENT ROOT CAUSE ANALYSIS



EMOS Advisory Event Frequency Analysis

**EMOS® Advisory Historical Analysis** is the key for sustainable best-practice operation of your electrolysis plant. As a service, R2's process and electrochemical experts analyze one year of historical data from DCS, PIMS, and CVMS for potentially harmful operating conditions and any abnormal or improvable performance decline. Tailored specifically for the Chlor-Alkali, Chlorate, and Water Electrolysis industries, **EMOS® Advisory Historical Analysis** generates comprehensive reports to correlate plant performance trends and potentially harmful operation for root cause analysis and appropriate countermeasures to achieve operational excellence.

### KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
Performance trends over the last year	Detect & quantify abnormal aging
Unique patented analysis methods	Reliable and precise KPI's
KPI-Trends: $U_0$ , $k$ , $U_N$ , C.E., SPC	Business plan impact (production & energy)
Search for SOP deviations (100+ fault types)	Optimize operations
Identify aging trend correlations	Root cause analysis



### PRODUCT DATA SHEET

MKD0101 2.0 - EMOS Advisory Historical Analysis

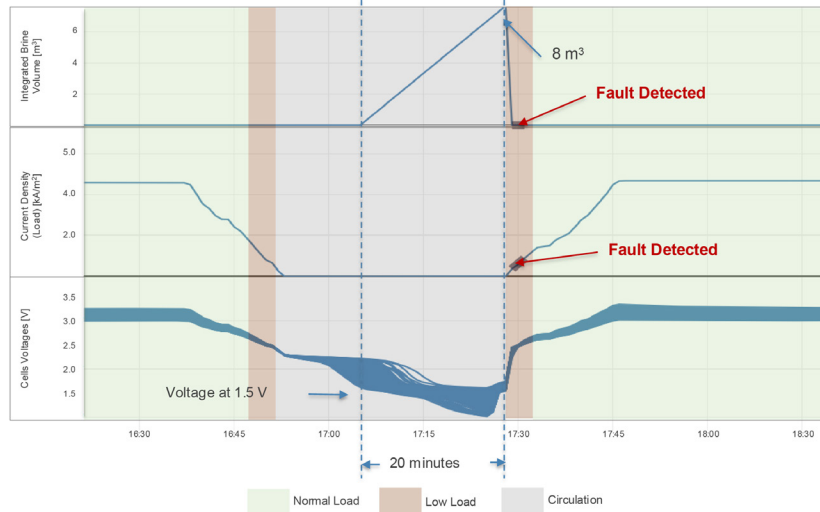
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## ADVISORY HISTORICAL ANALYSIS : DETECTION OF FAULTS

### Corrosive Brine during Startup



EMOS Advisory Historical Analysis detected the following faults after analyzing 1 year of data.

### EMOS® Advisory Historical Analysis

harnesses the power of our flagship real-time software, **EMOS® Advisory AI**, to evaluate historical data. This integrated solution can identify over 100 potentially harmful operating conditions, providing highly accurate insights into plant performance whenever abnormal voltage increases or drops in current efficiency occur. As an intelligent decision-support system combining machine learning with Standard Operating Procedure (SOP) manuals and past incident data, it identifies the root cause of each incident and suggests effective countermeasures to enhance efficiency and reliability.

R2 maintains the world's largest database of over 100,000 monitored cells, forming the backbone of its proprietary **EMOS® Advisory AI** and **EMOS® Advisory Historical Analysis** solutions. In one notable example, a customer experienced nickel-induced membrane poisoning. EMOS® Advisory Historical Analysis revealed that electrolyzers had been prematurely restarted seven times in a single year, preventing the complete flushing of corrosive substances. By extending each shutdown by just a few minutes, the issue was resolved—significantly prolonging membrane lifespan and providing an excellent return on investment in R2's analytical services.

## DELIVERABLES

Clients receive a detailed report that includes:

- A comprehensive list of faults detected during the data period.
- An overall analysis of the identified faults.
- Key insights and actionable recommendations for process optimization and safety improvements.

### SERVICE REQUIREMENTS

Data in one of the following formats: CSV

Sampling rate should be minimum 1/minute

### ORDERING INFORMATION

Part Number EN100

Description EMOS® Advisory Historical Analysis Service



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