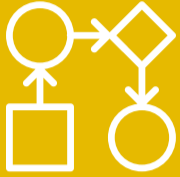


# CLEAN ROOM **V** THE SUBFAB

## 5 KEY REASONS TO ALIGN

### Equipment



1. A holistic view of equipment to uncover improvements



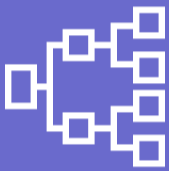
#### Multi-vendor environments

Highly automated environments with tools grouped by processes. This can mean there are equipment silos across the cleanroom.

#### Fleet management

Equipment appears similar in design and operation, but there is a huge variation in the fleet according to the process supported.

### Measuring



2. Better use of SubFab data to improve system effectiveness



#### Data intensive

Constantly monitoring vacuum levels. Most of these vacuum sensors are add-ons, typically not natively integrated with the process tools.

#### Integrated sensors

Hundreds of parameters measured and available to optimize performance.

### Maintenance



3. Prescriptive or predictive approach to reduce downtime



65% addition time for corrective maintenance

#### Condition or time based

Available data analytics supports a condition based predictive maintenance approach.

#### Mostly corrective

Technology advancements mean longer service intervals but unplanned downtime remains a risk for state-of-the-art processes.

### Service schedule



4. Synchronize servicing to optimize tool uptime



#### Proactive

Intensive servicing, well scheduled and completed on-site. Optimized for lowest risk and uncertainty, not highest uptime.

#### Often run-to-fail

Optimized for maintenance spend, not lowest risk and uncertainty. Downtime impacts wafer throughput, yield and profitability.

### Skills



5. More accessible vacuum system domain knowledge



#### Mainly Onsite

Highly skilled resources on process and yield are mostly available to access onsite.

#### Onsite and Offsite

Hands-on problem solving onsite and vast amounts of expertise behind the scenes in the application and service sites.