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Health Monitoring for Low Voltage Motors

SIMOTICS CONNECT 400 and SIDRIVE IQ Fleet

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Why do we need cloud-based and cost efficient health monitoring for low voltage motors?



70-80% of low voltage motors are running direct-on-line **without any built-in sensors.**



Traditional condition monitoring systems are quite **expensive** in comparison to motor price (esp. for smaller frame sizes).



Technical possibilities for **data transfer and processing** have been heavily **improving** over the last years.



Maintenance activities are often **limited** to an reactive and routine-based approach (e.g. cause unexpected downtime)



Gain transparency on motor operation to enable application and process optimizations

Short summary of the Siemens' motor health monitoring in six sentences



Measure motor health parameters once per 5 minute¹ with SIMOTICS CONNECT 400



Automatic data transfer via WLAN to MindSphere once a day¹



Data analytics and calculation of motor KPIs in SIDRIVE IQ Fleet



Get automated notifications based on anomaly detection



Gain operational transparency and manage your assets

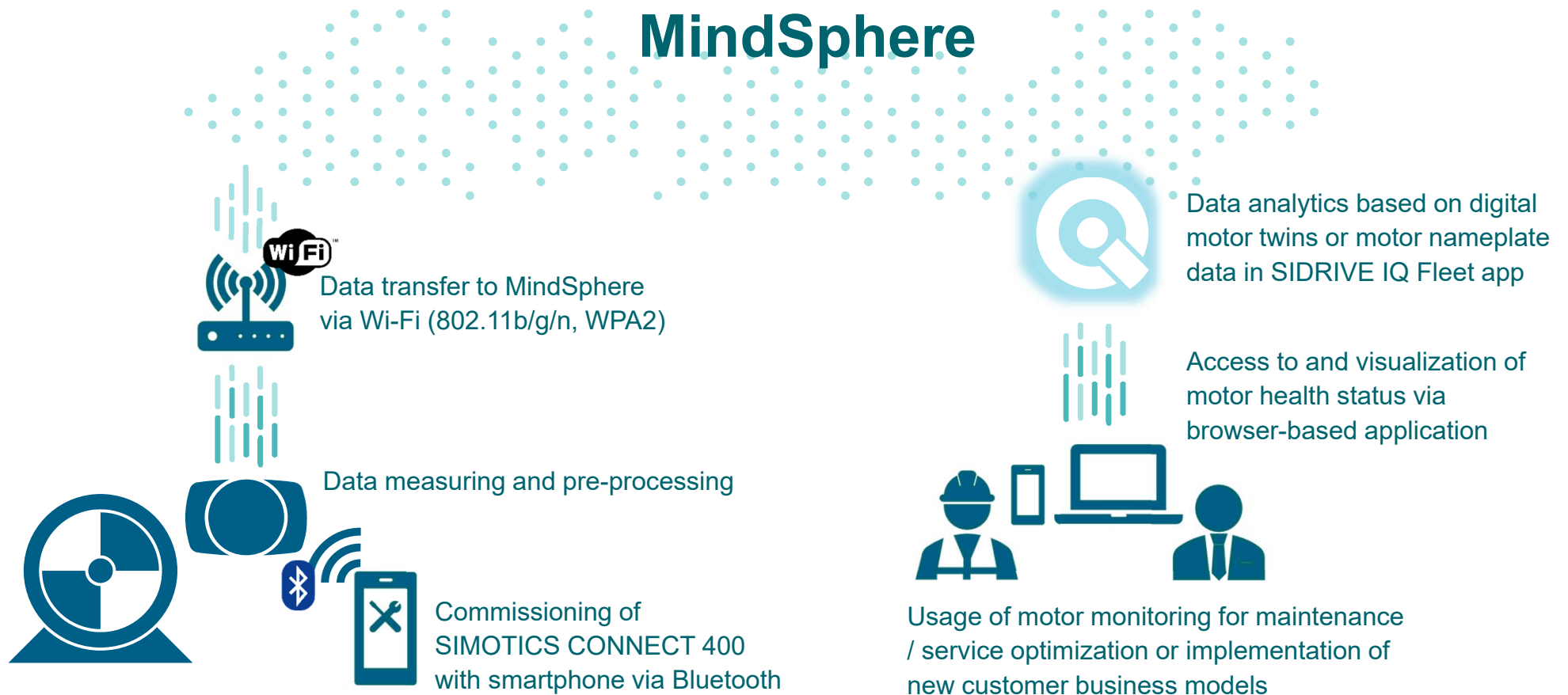


Improve performance and realize cost savings

¹ intervals are adjustable.

Detailed system architecture of SIDRIVE IQ Fleet with SIMOTICS CONNECT 400 as sensor module

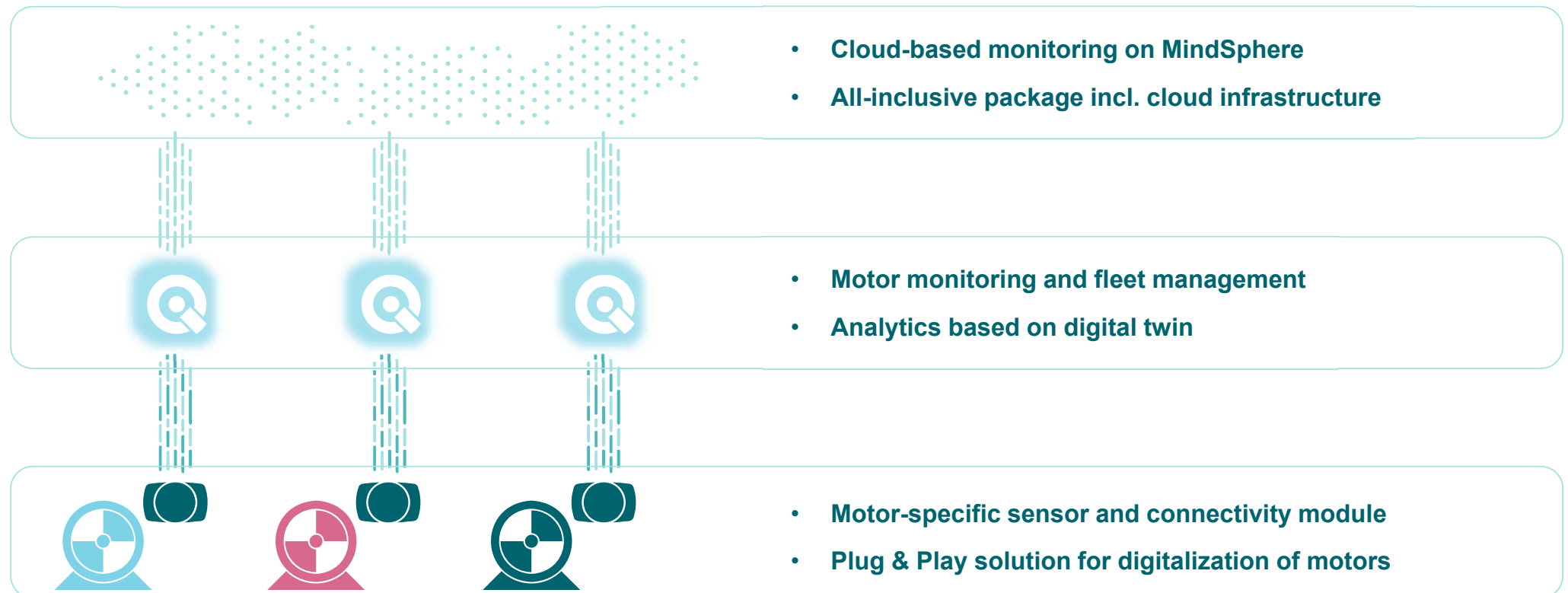
MindSphere



System characteristics of SIDRIVE IQ Fleet with SIMOTICS CONNECT 400 as sensor module



System architecture for monitoring of motors and applications



What makes SIDRIVE IQ Fleet and SIMOTICS CONNECT 400 unique in the market (Unique Selling Points)



Analytics for Siemens motors based on the **digital twin** (manufacturing and R&D data like motor models and electric circuit diagrams)



Advanced calculations and algorithms are providing higher data quality as base for analytics in MindSphere application SIDRIVE IQ Fleet



All inclusive app package¹ SIDRIVE IQ Fleet based on Siemens MindSphere



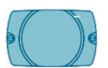
Flexibility and scalability based on customer needs: no own cloud-infrastructure at all or own app development based on MindSphere standard offering



Cross-tenancy¹ function for data sharing between multiple MindSphere tenants or APIs for data transfer to other cloud systems



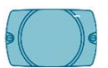
Possibility for setting up cost-effective partner business models by granting access to assets and motor data from various SIDRIVE IQ Fleet accounts



Field-to-cloud data transmission via Wi-Fi



No additional WLAN network needed and infrastructure based on standard router hardware. Secure and direct connection to MindSphere.



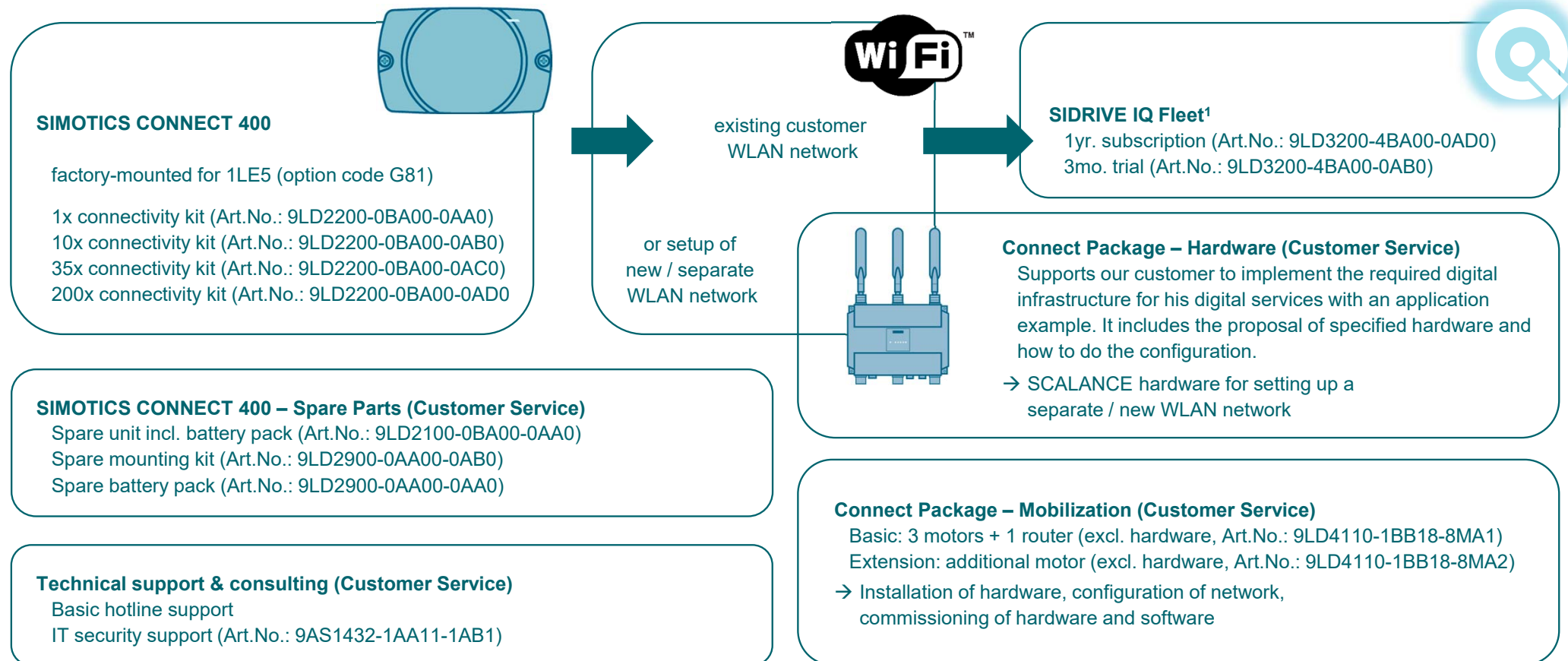
Exchangeable battery pack



Maintenance-friendly exchange¹ of batteries in one minute and without need of re-commissioning since sensor module goes directly back into operation.

¹ will be launched/ is planned as an option in FY20 ² Reverse polarity protected plug avoids electronic failure due to incorrect assembly.

Current offering scope for SIDRIVE IQ Fleet based on SIMOTICS CONNECT 400 incl. services



Customer Journey | General overview

How am I able to monitor my low voltage motors?

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Independent purchasing processes for software and hardware increase flexibility of partner business models and end user projects

Easy-to-use monitoring system offers business opportunities for our target customer groups (OEMs, system integrator, partners, end users)



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