

## **For General Distribution**

August 2018





## Offices & Locations

### Headquarters and design engineering Located in Milwaukee, WI and Allen, TX

#### Sales Office Locations (MSFDS Mfg. Office)

(10+ Sales & management professionals)

- Milwaukee, Wisconsin
- New York, New York
- Allen, Texas

### **Manufacturing and Component Prototyping**

- Allen, Texas (engineers and metal technicians)
- Overflow facilities
  - Longhorn Fabrication (Heavy Metal)
  - Waukesha, Wisconsin (engineers and metal technicians)
  - Grafton, Wisconsin (engineers and metal technicians)

### **Software & Firmware Development**

(software & hardware engineers)

- Milwaukee, Wisconsin
- Allen, Texas

### **New Product Development, Introduction & Deployment**

- Certifications, Configuration Validation, 3PP Build Verification
- Support in solving Customer Core and Site Challenges
- Antenna, RF, Microwave, Enclosures, Power, Transmission, In-building







# Partners & OEM Development Agreements

#### MSF All Metals - Allen Texas

- Partnership Agreement NDA's
- MSF Financial Investment
- Shared Engineering Resources
- Allen, Texas

#### **Manufacturing Back-up & Contingency Plans**

- Waukesha Metals 2 facilities (similar facility's export all paint to others Locally)
- Wisconsin Metals (similar facility export all paint to others Locally)

**Ericsson** (cabinet, power distribution, certification, assembly)

- NDA
- OEM Master Development Agreement

**Nokia** (cabinet, power distribution, certification, assembly)

- NDA
- OEM Master Development Agreement (in Process)

**T-Mobile** (Utility Metering, Energy Storage & Energy Management, IoT Reseller)

- NDA
- OEM Master Development Agreement

**Sprint** (Utility Metering, Energy Storage & Energy Management, IoT Reseller)

- NDA
- OEM Master Development Agreement

**Philips/Signify** (Utility Metering, Energy Storage & Energy Management, IoT Reseller)

- NDA
- OEM Master Development Agreement (In negotiation)

Vision Metering (Utility Metering Product Development, Component Reseller)

- NDA
- Development Agreement / PTCRB / Investment







# **Unique Offerings**

### **Products & Services**

- Consulting
- Architecting Solutions with Customer
- Solution Designs, Leveraging Global / Regional Total Network Design
- RBS Complete Cabinets Full NEBS, GR487, UL Certifications
- Integration and Acceptance
- Contract and Regulatory Compliance
- Integration & Test for Interoperability
- Solution Certification and Customer Acceptance
- Innovation / Development of Custom Solutions & Products



1RU AC Power Distribution Unit



Smart Light Poles



**Dual Voltage Battery Cabinet** 



**Equipment & Battery Cabinet** 



**Equipment & Battery Cabinet** 



Wireless Utility Meter Data Collection



## **AC Power Distribution Units**

## 110VAC & 220VAC Versions Available

- 60A & 125A Main Breakers with Trip Alarm
- Ultra-thin 1RU and 1.5RU Component Height
- UL1077 & UL489 Rated Breakers with Full UL Product Certification
- Hot Swap Distribution Breakers for Easy Field Serviceability



Production units include the Amphenol Connector for utility AC power feed

Pre-wired distribution as specified by customer

Powder coated aluminum chassis

Optional technician snake light – ground fault

110VAC convenience outlet – ground fault protection

Field serviceable "Hot-Swap" plug-in breakers

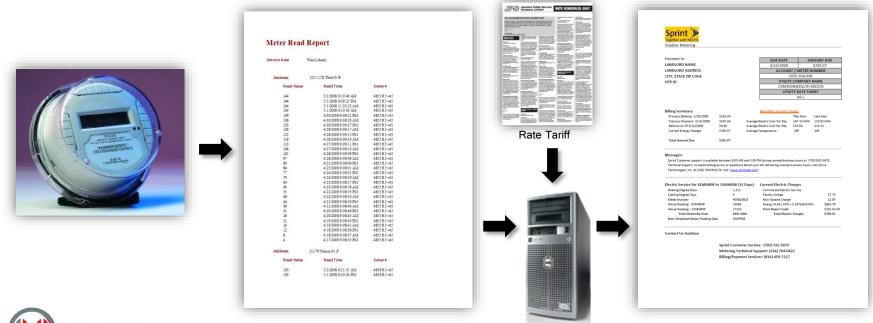
50A main breaker with fault alarm sensing



# **Utility Shadow Billing**

## **Data Collection Shadow Bill Process**

- Utility Grade Meter Collects the Site Energy Consumption
- The Meter Sends Data to the Server Creating the Meter Read Report
- Server Calculates the kW Consumption Applying the Site Rate Tariff
- Each Month the Application Generates a Utility Grade Shadow Utility Bill
- Bill Payment Services Utility Bill Scanning Other Payment Services



# **Capabilities**



### **What Makes Our Products Unique**

- Concept Design and Modeling
  - 2D/3D
- Enclosure Design
  - IPR design and ownership (Collapsible Cabinet)
  - 3PP adaptation (i.e., DVBBM-ALM, PDU)
- Metal Part Design
  - Ground Bar systems
  - Equipment mounting solutions
  - Air blockers, Battery vent kits, Seismic kits, etc..
- Cable Design
  - Power cables and assemblies including Hybrid
  - Signal / Alarm cables and assemblies
  - RF cables and assemblies
- Carrier Certification Pre-Approval
  - Strong knowledge of carrier GR-487, UL, ETL requirements
  - Preparation of test parameter documents for pre-approval by carrier
  - Package and process from start to finish GR & UL / ETL
  - Gain carrier signoff and product release with onboarding into carrier order process





# **Competencies**



#### Radio Access Products

- RBS
- Radio
- Antenna
- RF Systems

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# Transport Products

- Site Routers
- Microwave
- OFD
- CWDM

3

#### Power / Backup Products

- AC / DC systems
- Battery backup
- Fuel Cell / Hybrid systems

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### Design

- Mechanical
- Electrical

5

### Thermal Analysis

- Power modeling
- Heat dissipation modeling
- Cooling system validation / improvements



# Compliance & Regulatory

- TelcordiaStandards
- UL/ETL
- EMI / EMC
- NEBS / GR487

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# Hardware Integration

- Mock-ups
- FFF
- Assembly Docs
- FOA/FFA support

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# Configuration Management

- PDM
- Product Structure Mgt.
- PRIM/GASK
- ELIZA
- SAP

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### Life Cycle Management

- Post GA support
- · Product mgt.
- FRU / Spares mgt.
- CR / PRI / ECO

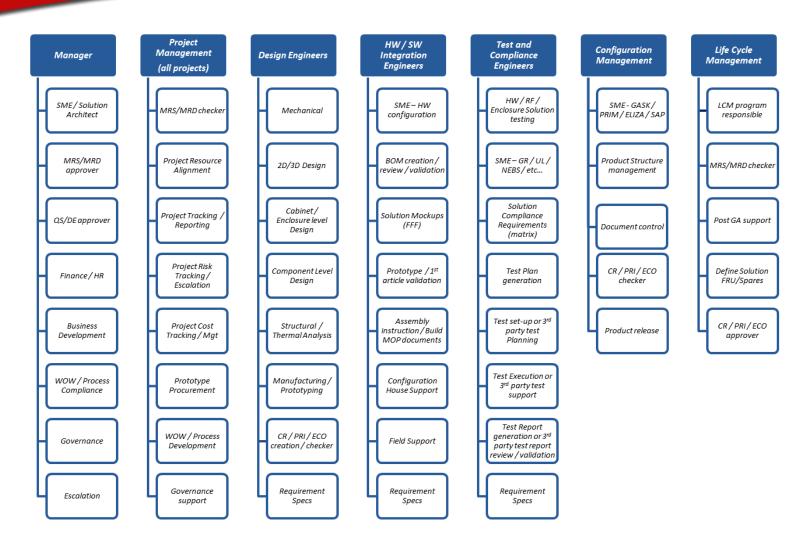
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#### Support

- Documentation
- Field Upgrade MOPs
- On-site
- Remote



# **Engineering and Support Overview**





## **Contact Information**

# MSF Data Services, Inc.

#### Manufactured in Allen, TX

GR487 Tested at NTS Laboratories – Plano, TX Designed and manufactured in USA www.msfds.com

#### For Sales Support (US and Canada)

Tel: (414) 349-5454 – Brian Magnus

bmagnus@msfds.com

#### For Technical Support (US and Canada):

Tel: (800) 890-6889 Fax: (262) 565-2048 Support@msfds.com

#### Sales Support email:

sales@msfds.com

#### **Sales Ordering email:**

orders@msfds.com

