ABMI
Association of the Beverage Machinery Industry

ABMI TC 06

Remote connectivity

November 2015

Introduction

This document has been prepared by ABMI TC 06 following a mandate of the ABMI Board

Aim of this document is to set a common guideline applicable in “remote connection” perimeter

To answer the mandate TC06 developed this topic into 2 main subjects:

- Remote connectivity network
- Remote intervention workflow

ABMI recommendation

- **ABMI recommend Customers to provide to OEM an internet connection to the equipment to achieve shorter downtimes & increase productivity thanks to:**
  - **Faster reaction time from OEM side**
  - **Better analysis and solution finding provided in any case of equipment malfunctioning**
    - Specialists network is available at OEM central level, instead of having only a service technician with basic knowledge at Customer site
  - **Faster and better detection of needed spare parts in case of equipment malfunctioning**
  - **System parameter analysis and setting**
  - **Fault fixing**
    - Thanks to software updates
  - **Considerable reduction in travel costs**
  - **Easy and efficient way to grow line operators competencies**
    - Having an expert “online coaching” during unusual or critical situations

ABMI recommendation

Some added value services could be provide to Customer thanks to a good connectivity like*:

- **Access to documentation (circuit diagrams, drawings, ...)**
- **Statistics**
- **Predictive maintenance**
- **Earlier warnings of machine malfunctions**
  - continuous diagnosis of the machine status
- **Long term machines improvement**
  - continuous R&D development on recurrent malfunction
- **Etc.**

**This list of potential services is only an example, each OEM is providing services according to contractual agreements*

Remote connectivity network

Needs

Secure high services level for Customers

Realize a reliable and efficient remote connection

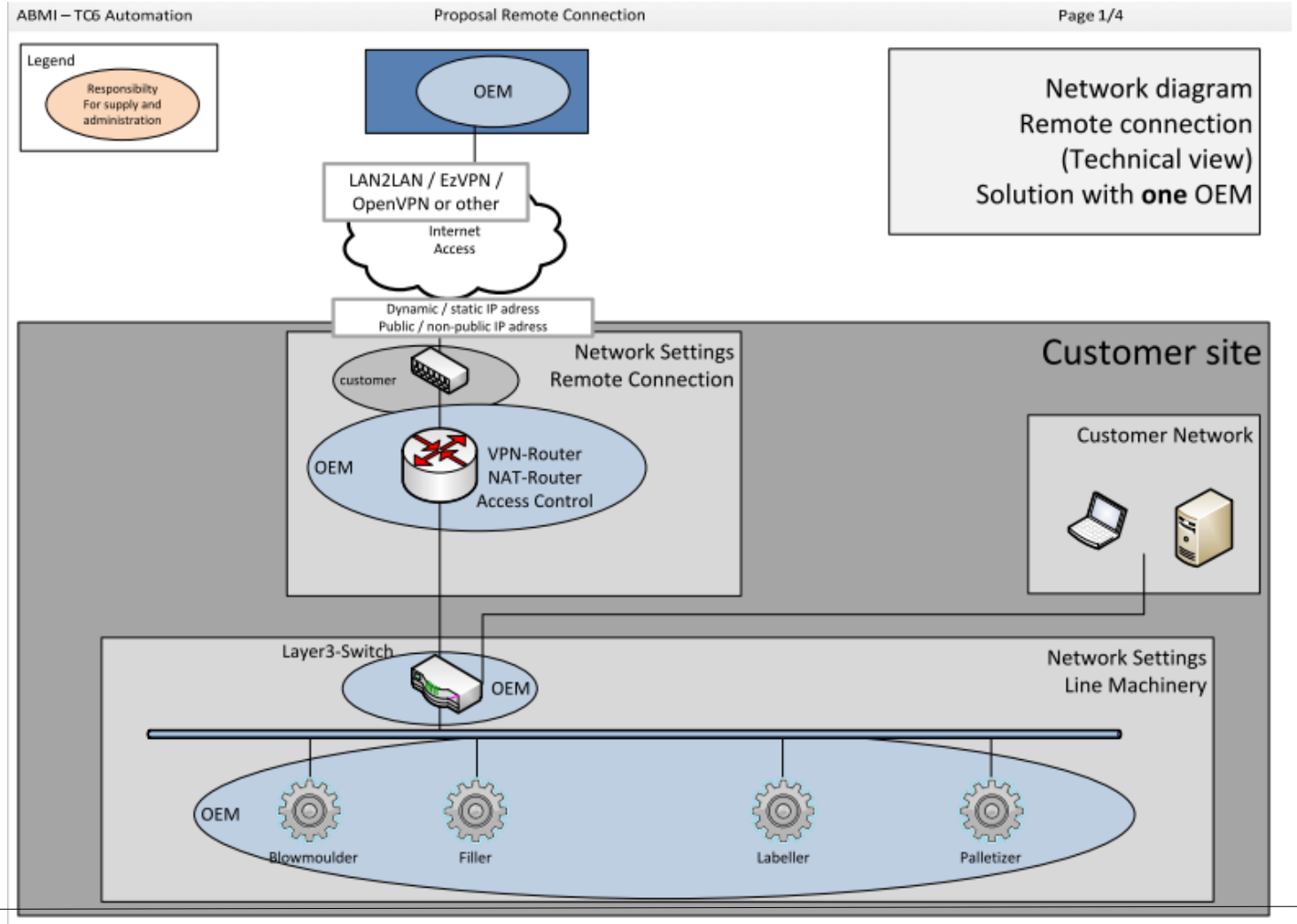
Realize a secure remote connection at IT level, both Customer and OEM sides

Deliverables

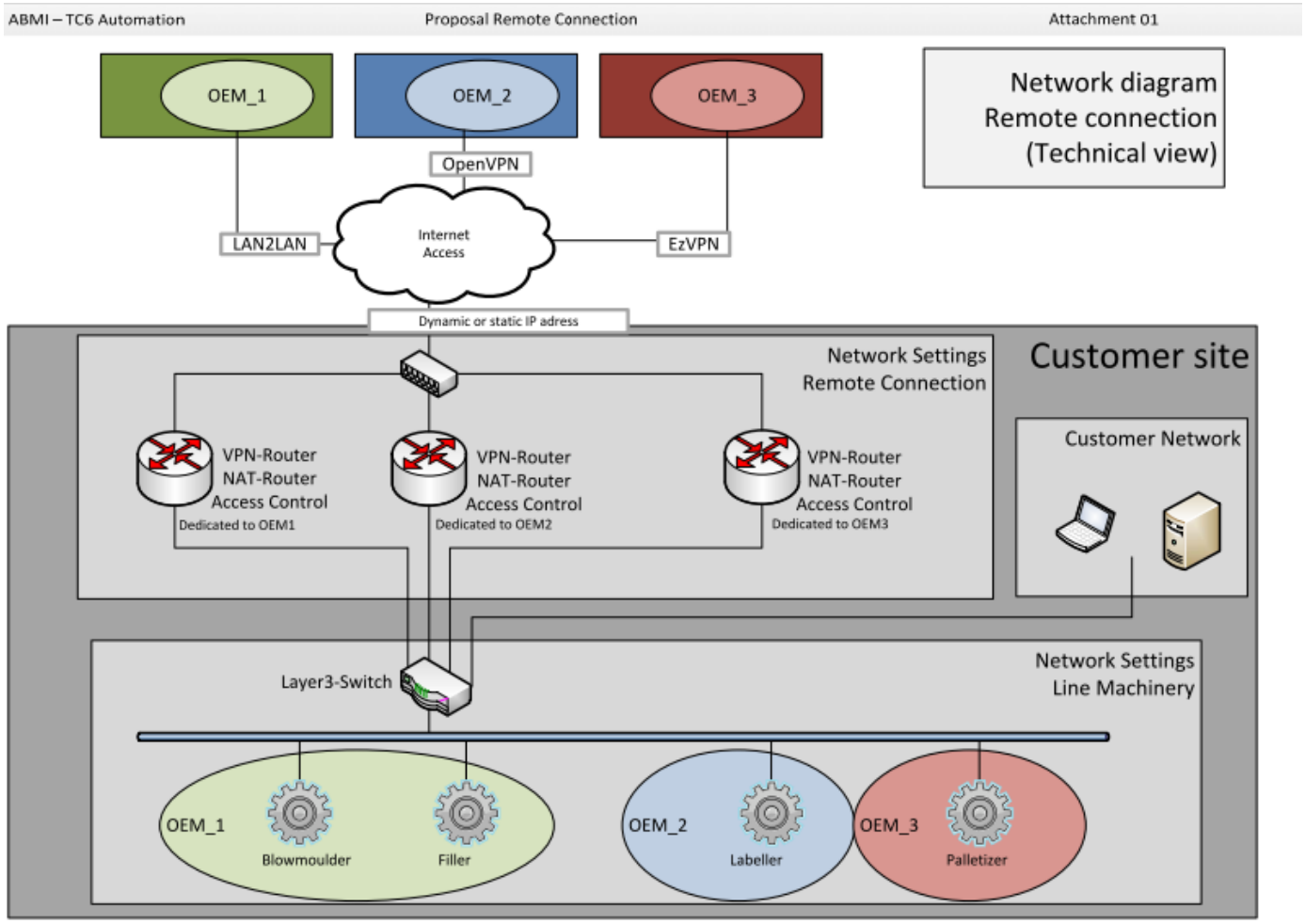
Preferred networks layout

Unsupported networks layout

Single OEM - preferred solution



Multiple OEM - preferred solution



Each OEM has his own preferred solution

In a multiple OEM line we could have mixed remote connection solutions

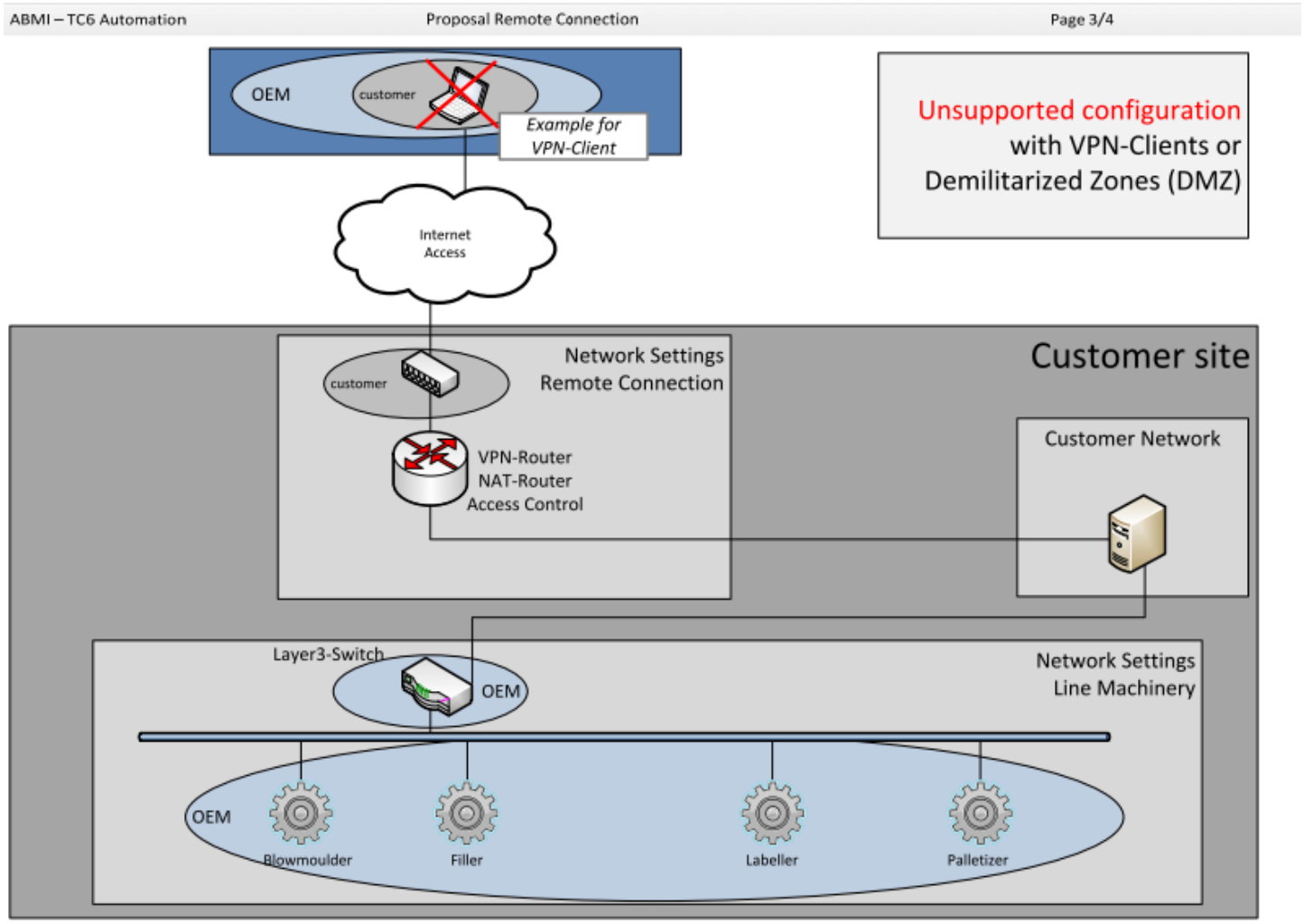
Any OEM can not supply **any** solutions

OEM Supported configuration – advantages

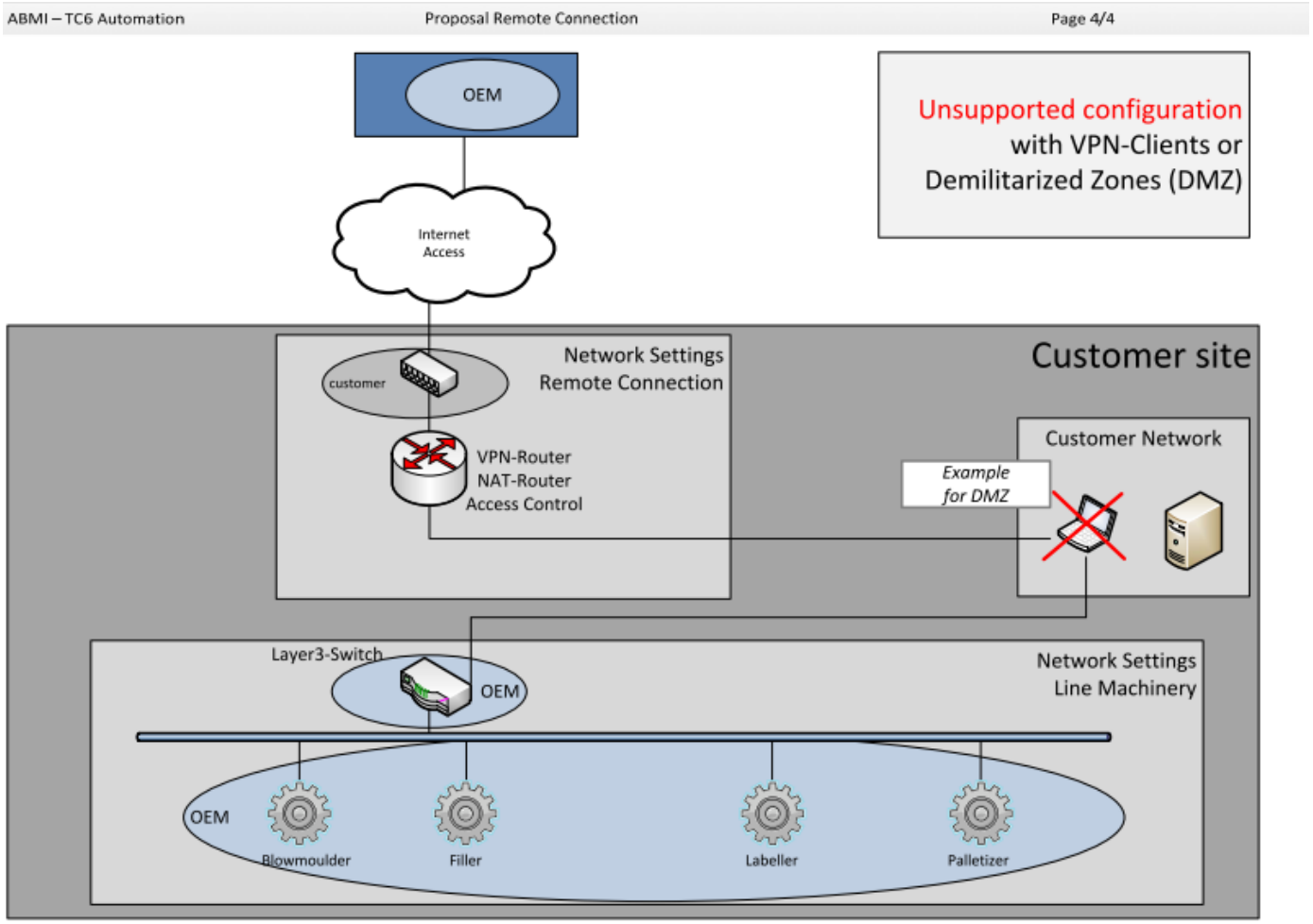
Customers and OEM advantages

- **Remote access meets actual law, standards and guidelines** - *verified by independent authorities*
- **Deeper analysis of fault situation** - *because of usage of own analysis tools*
- **Traceability of software version** - *by usage of source code management*
- **Less effort to the customer in network troubleshooting** - *because of the OEM responsibility for the whole network equipment*
- **Less uncertainty and less risk of incorrect operations during remote service** – *because of trained working environment - e.g. using own Laptop with own programming tools instead of using a Remote Desktop with customer PC*
- **Quicker response of OEM experts** - *because of standardized procedures*
- **Secure connection with a high level of protection** – *because of a high technical level of the solution with newest technology and continuous improvement and upgrade to the latest state of the art*

Unsupported configuration



Unsupported configuration



Unsupported configuration drawbacks

OEM Drawbacks

- Not allows stable services
  - because of the Customer PC management
- No statistics on connection
  - connection on Customer PC only
- No connection traceability
  - connection on Customer PC only
- Higher effort for service Team
  - password management, etc.
- Single solution for each Customers
  - engineering cost, etc.
- Higher effort for installing /administrating software modules and licences

Unsupported configuration drawbacks

OEM and Customer Drawbacks

- No technicians skill level selection
  - no filtering allowed
- No network infrastructure monitoring
- Software licenses ownership /management inside Customer PC

ABMI Message to Customers

"Preferred ABMI solutions are the supported ones, other configurations are technically possible but not supported."

Remote intervention work flow

Needs

Speed-up and facilitate the remote service activities

Assign clear responsibility between OEM and Customer

Secure safety condition during remote service activities

Deliverables

RIF - Remote Intervention Form

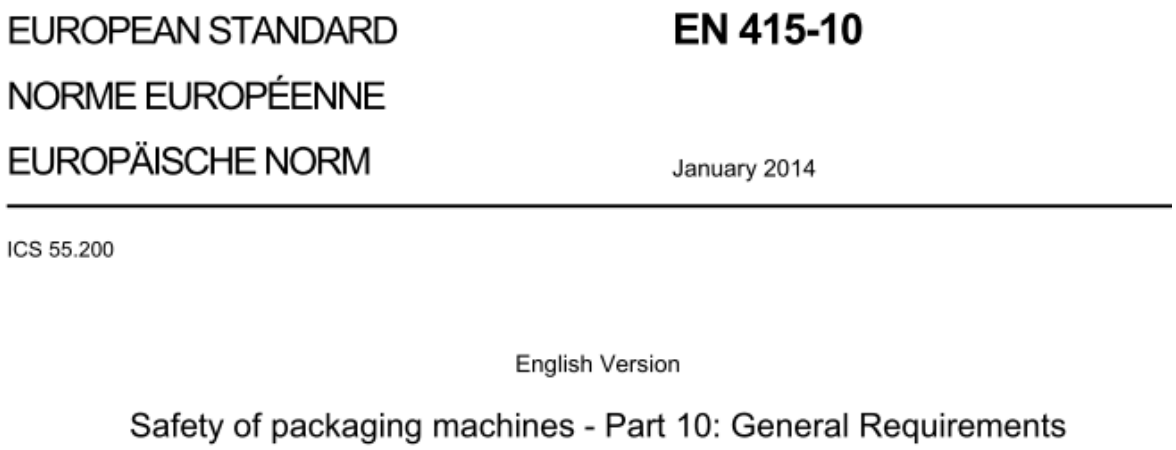
SCF – Service Connection Flow

General safety conditions

Main assumptions

Good practices are defined in the norm EN415-10

- Each company should fulfill the elements stated by the norm, may be in a different technical way
- Elements prepared within the TC06 are additional to the norm elements
- The TC06 recommendation will easiest the communication with Customers and improve the safety of the customers' staff



EUROPEAN STANDARD **EN 415-10**

NORME EUROPÉENNE

EUROPÄISCHE NORM January 2014

ICS 55.200

English Version

Safety of packaging machines - Part 10: General Requirements

ABMI recommendations for a safe remote service

OEM side

- "Remote Technician" is not authorized to:
  - restart the machine by remote
  - initiate cleaning cycle by remote
  - modify Safety PLC

Customer side

- Customer should assign the task to a "Supervisor" – contact person
- "Supervisor" is a person who has proper skills and responsibility according to Customer security policies
- "Supervisor" should guarantee the local survey of the machine during the remote intervention to secure safe troubleshooting for people and the machine itself

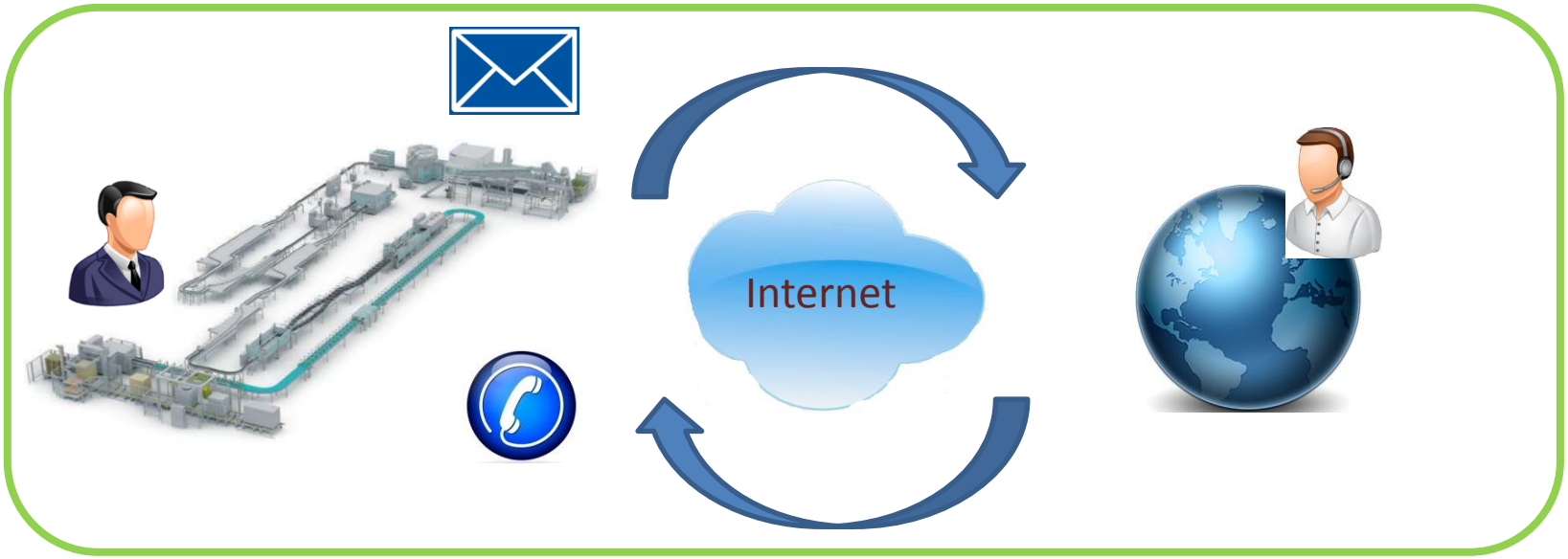
Intervention workflow - proposed solution

First step

Customer call to OEM entry point with the minimal information prepared in the "Remote Intervention Form" RIF here attached

Second step

Enter the "Service Connection Flow" as specified SCF here attached



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THANK YOU FOR YOUR ATTENTION