Requirements for Suppliers of Systems and Machine

I. Delivery Basis

a) Quality provisions

The basis for the delivery of machines, machine parts or spare parts are exclusively the technical delivery specifications, drawings, quality inspection plans and standards of Agrarfrost GmbH (hereinafter referred to as AGF). If the quality-determining descriptions are not available, the quality of the equipment must be specified jointly between AGF and the Supplier.

The Supplier shall inform himself about the local conditions.

If deviations from this delivery specification appear necessary or expedient to the supplier or if queries arise, these are to be clarified with the responsible project manager of AGF. Changes to the specification may only be made in prior consultation with AGF and after written approval.

The technical equipment and machines must comply with the current DIN EN 1672-2 “Food processing machinery - General principles for design” and the documentation must be available to the supplier without any gaps. The documents must be handed over to AGF on request.

Systems and machines must be designed and arranged in such a way that cleaning and maintenance measures can be carried out effectively. Food contact surfaces must be free of weld seams and burrs.

Only EC-compliant material in accordance with the “state of the art” may be used, which complies with the relevant directive. Wood and glass are not permitted as materials in the production area. If glass is essential in the production area, prior consultation regarding breakage protection must be made with the AGF contact person. Wood and glass are permitted outside the production area.

b) Legal provisions

The planning and design of the mechanical components and the measurement, control and regulation equipment must be carried out to the best of our technical knowledge and using state-of-the-art technology. The equipment must be selected and installed with a view to simple, clear operational management. The safety of the personnel is paramount.

The supplier is responsible for complying with the editions of all directives, harmonized standards and regulations relating to this project valid at the time of the order, such as

- the rules of safety engineering
- the accident prevention regulations
- DIN, EN or ISO standards
- VDI and manufacturer guidelines
- VDE regulations
- the EC Machinery Directives
- the EC Pressure Equipment Directives
- the EC RoHS Directive
- the Ecodesign Directive
- the technical regulations of the German Federal Post Office
- the general emission and immission regulations
- the Ordinance on Hazardous Substances incl. technical regulations
- Other applicable Community directives
- All applicable harmonized European standardsSollten

German standards, which place more specific and stricter requirements on the product than the harmonized European standards, these must be complied with.

In the absence of harmonized European standards for an ordered machine, the supplier undertakes to comply with the German standards and technical specifications published by the Federal Government in the list of machines for the Equipment and Product Safety Act.

If there is a deviation from harmonized European standards or German standards and technical specifications, it must be proven and documented that the same level of safety has been achieved by other means.

All applicable German and European food regulations must be complied with when using food contact materials and articles or consumer goods. These are e.g:

- EU (Regulation) 178/2002 laying down the general principles and requirements of food law
- LFGB
- EU (Regulation) 1935/2004 on materials and articles intended to come into contact with foodstuffs
- EU (Regulation) 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food
- Consumer Goods Ordinance

II. Scope of delivery

a) Declaration of confirmity regarding suitability for food contact
For all consumer goods used, corresponding declarations of conformity
declarations of conformity or comparable declarations (“certificates of safety”) must be provided to AGF, which above all

- confirm that the provisions of food law are complied with.
- correspond in scope and structure to the current legal provisions.
- confirm that the consumer goods are suitable for the intended use.
- are suitable.
- indicate possible contamination and hazards (interactions) for products and consumers.
- specifically plastics meet the requirements according to the annexes “Declarations of conformity for plastic materials and articles” and “Annex IV of Regulation (EU) No. 10/2011”. The BLL's information leaflet “The Declaration of Conformity” also serves as an aid.
- Plastics that come into direct contact with food must be designed as detectable if possible. A corresponding declaration of conformity or clearance certificate must be enclosed.
- are not older than 2 years.

b) CE marking and EG declaration of confirmity
Every ready-to-use machine or system has a CE marking.

An EG declaration of conformity in German must be drawn up for each machine, system or safety component in accordance with the current EG Machinery Directive. AGF must be notified immediately of any changes to the documentation.

c) Manufacturer´s declaration
In the case of an incomplete machine, the manufacturer's declaration in accordance with the current EG Machinery Directive must be enclosed (extensive implementation of the quality

requirements of relevant internal market directives is a condition). AGF must be informed immediately of any changes to the documentation.

d) EG type-examination
A certificate from an approved testing and certification body must be submitted for a machine or system that may be subject to an EG type examination.

e) Instructions for use/operating instructions
Operating instructions must be provided both in writing in German and electronically in Word, Excel or PDF format. A machine must be accompanied by operating instructions in accordance with the current EG Machinery Directive (including the prescribed noise emission and vibration parameters). This also applies to an incompletely delivered machine. AGF must be notified immediately of any changes to the documentation.

f) Technical documentation
Technical documentation must be prepared for a machine in accordance with the current EC Machinery Directive. This also applies to incompletely delivered machines. AGF must be notified immediately of any changes to the documentation. The documentation must be addressed to the “Technical System Management”, Technical Department. A copy of the construction plans must be sent to Agrarfrost on request. Agrarfrost undertakes to use these only for its own purposes and not to pass them on to third parties.

g) Electronical documents
After acceptance, the responsible persons at AGF must be provided with one set of electrotechnical documents per electrotechnical system that correspond to the current status of the electrotechnical equipment of the system. These are e.g. circuit diagrams, spare parts lists, maintenance documents etc. (see point XV).

No later than 3 weeks after acceptance, the Supplier must provide the responsible person at Agrarfrost with the documents such as circuit diagrams and system drawings in paper form and in a suitable data exchange format (optical data carrier, email). The data carrier formats are generally PDF format, DXF, SAT and STEP format for CAD drawings and an EPLAN-compatible drawing format (e.g. HPGL) for circuit diagrams. Any deviations must be agreed with the responsible persons at AGF.

h) Further documents
Certificates, material certificates, hazard and risk analyses and test reports are included in the scope of delivery and services. They must be enclosed with the delivery in duplicate in a copyable version. All technical consumption data, such as air and water consumption or energy consumption, must be included in the documentation.

i) Production monitoring and commissioning
- The Supplier shall ensure that AGF's authorized representatives have access during working hours to the production facilities where the Supplier has contractual services performed for AGF.
- In order to enable AGF to participate in inspections, AGF's authorized representative shall be notified at least 7 days in advance. In case of omission, the inspections shall be repeated upon AGF's request. Furthermore, the representatives authorized by AGF are entitled to inspect the production and inspection documents as well as other information in connection with the execution of the order.
- The inspections vis-à-vis AGF shall be carried out in accordance with the inspection documents to be prepared by the Supplier. These shall be submitted to AGF 20 days prior to the start of production.
- The Supplier undertakes to prepare records of internally conducted tests which serve as proof of compliance with the order requirements.

j) Comissioning and acceptance
- At AGF's request, a factory inspection shall be carried out at the manufacturer's premises in accordance with the inspection documents recognized by AGF prior to delivery of the scope of supply and services, which is intended to ensure release for shipment.

- The Supplier's delivery items are subject to AGF's incoming goods inspection. AGF reserves the right to reject all delivery items that do not comply with the order upon arrival at the place of delivery, irrespective of participation in the tests at the supplier's premises.
- The commissioning and performance acceptance of the system to be delivered shall in any case be carried out at AGF's place of installation.
- No later than 3 weeks after acceptance, the customer must provide the responsible person at Agrarfrost with the documents such as circuit diagrams and system drawings in paper form and in a suitable data exchange format (optical data carrier, e-mail). The data carrier formats are generally PDF format, DXF, SAT and STEP format for CAD drawings, as well as an EPlan-compatible drawing format (e.g. HPGL) for formwork plans. Any deviations must be agreed with those responsible at Agrarfrost. If the deadline is not met, Agrarfrost reserves the right to have missing documents produced at the supplier's expense after a reasonable period of time.

III. Spare parts

The supplier undertakes to supply AGF with all spare parts for the duration of the average service life of a delivered machine / system. Determination of the average service life of the delivered machine to a 3-shift operation on 5 days a week or a corresponding operating hours duration. The price of the spare parts must not be higher than the price of a comparable spare part on the open market.

If the production of spare parts has been discontinued after expiry of the aforementioned period, the Supplier undertakes to hand over construction plans/drawings or molds to AGF upon request for a reasonable fee in order to use these documents for the production of spare parts exclusively for its own use. AGF undertakes not to make these documents accessible to third parties.

Spare parts for which there is a continuous demand shall be kept in stock by the supplier at a minimum level in order to ensure fast delivery times. A list of articles and the required quantities must be clarified with AGF's technical management.

IV. Requirements for rated voltages and protective measures

a.) The usual nominal voltages and network types at AGF must be clarified with the responsible persons in the company before the start of construction or delivery. The supply terminals must always be designed for a 5-wire connection.

b.) Low-voltage distribution and consumer network : 3/PEN AC 50Hz, 400V / max. deviation +/- 5%
Phase sequence of all low-voltage switchgear : L1-L2-L3 (clockwise rotating field)

c.) Auxiliary voltages: 230V AC voltage / 24V DC voltage for:

- General control voltage
- Magnetic equipment
- Electronic controls
- Indicator lights

d.) After voltage dips or power failures, it musst be possible to restart the interrupted sequence properly. The operating personnel must be able to restart the sequence or reach the home position using the available control devices.

e.) In cases where electromagnetic switching devices can drop out in an uncontrolled sequence as a result of a voltage dip and thus pose a danger to people or machinery, an undervoltage protection device must be used to shut down the electrical system when a set limit value is reached. This also applies analogously to electronic control systems.

f.) Motors must be protected against overload. (Motor protection switch with magnetic and thermal protection).

g.) Overload devices must be secured against automatic restarting.

h.) Selective switch-off behavior of the overload devices must be ensured.

i.) The response of the protective devices must be monitored and reported individually.

j.) If it is necessary to use a different voltage for certain equipment parts, this must be generated by transformers, rectifiers or converters. These must be part of the delivery or the machine. They must be installed inside the switch cabinets .

V. Requirements for emergency stop devices and main switches

a.) Emergency stop circuits may only be realized with falling electromagnetic switches and NC contacts.

b.) Unlocking the emergency stop devices must not cause an automatic restart.

c.) Every electrical installation must be equipped with a mechanically operated main switch. This may only be lockable in the off position.

d.) Emergency stop control devices must engage after actuation.

VI. Requirements for control, command and signaling devices

a.) Control devices such as limit switches must be easily accessible in the system. By definition, they are considered easily accessible if they can be replaced within approx. 10 minutes without special tools.

b.) No set-up work should be required after replacing control units.

c.) Indicator lights must be fitted with bayonet or plug-in lamp sockets so that light sources can be replaced without any problems.

VII. Requirements for auxiliary circuits

a.) To simplify troubleshooting, auxiliary circuits must be appropriately subdivided and fused. They can be subdivided into control, display, actuator and drive circuits or function groups, for example.

b.) Control transformers must be protected against overload and short circuit.

VIII. Requirements for the connection of actuators and sensors

a.) Flexible multi-wire sheathed cables or cables must be used for installation outside of switch cabinets. The cables must be resistant to radiation, pressure and chemical influences. Only copper is permitted as conductor material.

b.) Cable connections between machines or devices are not permitted. Cross-connections must be made in the switch cabinets or in the distribution boxes. However, it must be possible to calibrate all functions individually from the control cabinet.

c.) Connection and distribution boxes must be arranged in such a way that they are easily accessible without dismantling other machine parts.

d.) Switchgear must not be housed in junction and distribution boxes. However, measuring transducers should be located as close as possible to the physical measuring point.

e.) Plug-in devices for additional equipment such as pumps, filters, measuring controls etc. must be connected downstream of the main switch.

f.) Portable electrical components of a machine must be connected via plug-in devices.

g.) If several plug-in devices are arranged next to each other, confusion must be prevented - in addition to marking the plug-in device - e.g. by

- Electrical coding
- Mechanical coding
- Dimensioning of the cable length, which only allows the correct connection to be made.

h.) Only one wire may be connected to each pole of a plug-in device.

i.) Only one cable may be inserted into each connector.

j.) All connections must be clamped or plugged. Soldered connections are not permitted.

k.) All cable ends that are clamped must be fitted with wire end ferrules or cable lugs.

l.) Only a maximum of 2 wires may be connected to each connection terminal of the switching devices.

m.) A separate cable must be connected to each device.

n.) All wires, including those not used, must be routed to the designated terminals. These do not count as spare terminals. For plug-in devices, limit switches, etc., unused cores must be insulated.

o.) Luster terminals or terminals not attached to a rail must not be used.

p.) Only one wire may be disconnected at each terminal per connection point.

q.) Cable entries must be strain-relieved. Only one cable may be fed through each entry.

r.) In general, electrical devices such as actuators, sensors, etc. should be connected from below from the cable routing. If only lateral entry is possible, drip trays must be installed. Cable entry from above is not permitted.

IX. Requirements for the laying of cables

a.) Stainless steel pipes must be used within production areas. Galvanized pipes, e.g. stapo pipes, are not permitted. Stainless steel mesh cable trays should preferably be used for channels.

b.) The nominal cross-section of the newly installed ducts, pipes, etc. may only be occupied to a maximum of 60%.

c.) It must be ensured that capacitively or inductively transmitted voltages between the cables do not have any disruptive effects.

d.) If cables are laid on mesh cable trays, cable trays, cable trays or cable trays, these must be aligned. If the cables are laid vertically, they must be fastened and strain-relieved.

e.) Pipes must not be welded on, but screwed on. Both ends must either be fitted with plastic grommets or reliably deburred.

f.) Fixed clamps are also not permitted within cable trays and mesh cable trays.

g.) The length of the connecting cables must be dimensioned so that the devices can be easily replaced.

h.) Suspended housings must not be supported by connecting cables or hoses.

i.) For cables with more than 5 cores, at least 20% spare cores must be provided.

j.) Control cables must always be constructed with numerically or color-coded wires.

X. Requirements for switch cabinet installation

a.) The installation must comply with the circuit diagram.

b.) Only flexible cores may be used for wiring.

Farbcodierung:

• Center conductor of main circuits:		light blue
• Main circuits:		black
• Control circuits for alternating voltage	Trafo primary - Trafo secundary-	red/blue red/
• External tension:		orange
• DC circuits 24V		+ white/ - grey

c.) Devices in doors or hinged frames must be connected with flexible single wires in the protective conduit. The protective conduits must be installed with strain relief on both sides.

d.) All devices must be connected from the front only.

e.) For trunking wiring, a wiring channel of sufficient size must be placed in front of the terminal strips.

f.) Only 60% of the nominal cross-section of the wiring paths may be used.

g.) Busbar systems must be used if there are several main power outlets. The covers for these systems must be made of flame-retardant, transparent plastic.

h.) Each conductor end of flexible cores must be fitted with crimp cable lugs or wire end ferrules.

i.) Only one wire may be connected to each terminal block per connection point.

j.) No terminals or terminal connections may be installed in the wiring ducts.

k.) At least 15% reserve terminals must be provided.

l.) Protective conductor terminals must be located directly next to the associated circuit terminals.

m.) A copper rail must be installed for PE and N.

n.) The supply terminals must be covered.

o.) Drives up to 4 KW must be mounted on busbar adapters. The busbars must be fed in groups via fuse switch disconnectors.

p.) Each busbar must be monitored with a phase failure relay.

q.) Busbars for adapters must be made of tinned copper.

r.) A manual – 0 – automatic control level must be provided for all drives. The manual control level must be independent of the PLC. This also applies to reversing circuits and star-delta combinations.

XI. Requirements for housing and installation spaces

a.) Control cabinets, operator panels, etc. must be designed in such a way that all functions are fully ensured under the expected environmental conditions. If necessary, climate control should be provided. Permissible cabinet temperature: max. 38°C.

b.) All control cabinet installations must be clearly arranged and easily replaceable. A 30% space reserve on the mounting plate must be provided.

c.) For switching devices, a snap-on mounting on a DIN rail should be provided as preferred. When mounting on the mounting plate, threaded holes should be used.

d.) The interior sides of control cabinet doors must be equipped with pockets to hold all electrical documentation.

e.) All live parts must be safely covered to prevent contact.

f.) Control cabinets must generally be equipped with adequate lighting and at least three Schuko sockets. Sockets in the light fixtures do not count. The circuits for the lighting and the sockets must be tapped before the main switch and individually protected. The wiring for the circuits must be installed in a way that is short-circuit and earth fault-proof.

g.) All parts of the control cabinet must be connected in a star configuration to the PE rail, in accordance with VDE standards.

XII. Requirements for labeling

a.) All electrical devices must be labeled. The labeling must be in German only.

b.) A double labeling system must be used (on the cable and at the installation location). These labels must not be lost or covered when the devices are replaced. They must be clearly readable and visible. The labels must be engraved or embossed; they must not be attached with adhesive.

c.) Each cable end must be provided with a permanent label.

XIII. Requirements for circuit technology

a.) If the failure of control devices poses a risk to people or machinery, the function must be monitored by a safety circuit.Das Parallelschalten von Steuerkontakten zur Erhöhung der Schaltleistung ist nicht gestattet.

b.) A test circuit must be used for indicator lights and displays. This test must be possible in all operating modes and must not impact the functionality of the electrical system.

c.) Operating states of movements and functions, as well as switching states of power and auxiliary systems, must be indicated.

d.) All control circuits required for the safety of people must be implemented with contact-based components. E.g.:

- Emergency stop devices
- Two-hand controls

e.) Sufficient emergency stop devices must be installed on the machine.

f.) Only red push-pull switches or buttons, or red pull cords, may be used for emergency stop devices.

XIV. Requirements for device selection

a.) Only standard products from the electrical industry, as listed in the approval list, may be used. Deviations are only allowed after consultation with the head of technology, the head of electrical engineering, or the responsible manager of the respective department.

b.) All devices must be installed in their original condition without any modifications.

c.) All control, switching, and signaling devices must have a protection rating of IP55 when installed, and limit switches must have a protection rating of IP65.

Contactor combinations, such as star-delta starters or similar, must be assembled from individual devices. Pre-assembled factory combinations are not to be used.

XV. Requirements for electrical documentation

a.) General

- It must be ensured that necessary changes to the plans can be made through an E-CAD system, either by the supplier or in-house.
- The electrical documentation must be compiled in binders or ring binders and provided with a table of contents.
- Circuit documentation must be created in accordance with current DIN standards and VDE regulations in the German language.
- The sheet format for wiring diagrams is DIN A4 landscape. The format of the binders must match the sheet format.
- The circuit documentation must be created using an electrical CAD system, e.g., E-PLAN.
- The creation of the circuit diagrams must comply with current VDE regulations.

b.) Wiring diagrams

- The wiring diagram should represent the switching sequence in a clear and comprehensive form without any gaps.
- The numbering of contacts and terminal designations in the diagram must match the labels on the switching devices.
- The functions in the control sequence must be explained in plain text (e.g., "System on").
- The contact allocation must be shown below the coil symbol, and for multi-pole switches, next to the first switching element.
- The wiring diagram must also include the following information:
  - Voltage, frequency, and number of phases of the power supply
  - Connection designations
  - Plan section numbering
  - Unfolding of selection switches
  - Setting values for overload relays, pressure switches, etc.
  - Rated currents of fuses
  - Rated current, power, and type of circuit for all drives
  - Rated data for transformers

c.) Terminal Diagram

- The terminal diagram provides a complete overview of the external installation, including connections to peripheral devices.
- Terminal blocks, terminals, connecting cables, and plug connections must be listed.
- The number of conductors, cross-section of the cables, as well as the identification of connecting cables and plug connections, must be specified.

- Shielding, protective earth connections, and grounding points must be included.

d.) Assembly diagram

- The assembly diagram includes the division of the control cabinets and the arrangement with brief designations of all devices, terminals, and plug connections.
- Internal circuit diagrams or operating instructions for electronic modules (excluding PLC) with measurement value specifications and references to the measuring instruments to be used must be provided.

e.) Programmable logic controllers

- Hardware
  - A separate power circuit (230V AC) must be provided for the supply of the SPS power supply module.
  - Preferably, controllers from Siemens (S7-200, S7-300, and S7-400) should be used. If devices from other manufacturers are used, both for the control system and the operator and monitoring level, written consultation with the client is required.
  - Only potential-free analog, input, and output cards may be installed.
  - Only peripheral modules that are approved by the respective PLC manufacturer may be used.
  - The peripheral modules must be connected via screw terminals.
  - In the Simatic S7 range, slots for communication processors must be kept free.
  - TCP/IP communication must be enabled to establish data transmission to the control room.
  - The supply of the load circuits (E/A level) must be through a dedicated power supply.
  - The protection of the load circuits must be fuse-free.
  - All inputs and outputs must be labeled with a short text (label strips).
  - The program memory must be battery-buffered All modules must be equipped with screw terminals.

f.) Software

  - Preferably, the program should be documented in the function block diagram format.
  - The program must be structured, e.g., grouping functional blocks into modular sections.
  - All functional blocks must be divided into as small and manageable networks as possible.
  - Functional sequences must be action-controlled. Time-controlled sequences are not permissible.
  - All operational and fault messages must be recorded as new value messages by every drive.
  - To facilitate and simplify data exchange with an HMI system, the operating states of the system (process values, actuators, sensors) and messages must be stored in data blocks.
  - All relevant operating data of a system must be captured by the SPS and stored in data blocks. Preferably, the summation of counter values and the normalization of analog signals should be performed in the SPS.
  - The measurement and control technology should preferably be implemented via the SPS to simplify data capture and communication. If hardware controllers are required, the type of controller to be used must be clarified with the client.

- Documentation
  - After final acceptance, the supplier must provide the responsible person at AGF with a fully documented, i.e., program-commented and up-to-date version of the program on a suitable and compatible storage medium. A paper printout should be created if necessary. A "password protection" for the program is not permitted. Exceptions, such as for self-created function blocks, must be explicitly documented.
  - The overall function of the system, as well as individual functional modules, should be included in plain text or as a flowchart. A schematic representation of the system would be helpful in supporting this.
  - Individual blocks in the program must be provided with block comments, and all contained networks must have network comments and network headers.
  - A program printout with a footer, including all relevant data such as date, system manufacturer, designation, etc., must include the following components:

    Table of contents of the storage medium

    Program description

    Symbol file

    Cross-reference lists

g.) The assignment lists must be structured as follows:

- The E/A/M/T/Z/B must be grouped into individual groups.
- Symbolic designations should include the shorthand notation (wiring diagram).

  Example: E 1.1 = S10 System On

XVI. Material approval list

Contractors up to 4 KW	Siemens
Contractors > 4 KW	Schneider
Auxiliary Contactors	Siemens
Relays	Finder
Time relays	Finder
Level Relays, Current Relays	Dold
Interface Contactors to the PLC	Siemens
Motor Protection Circuit Breakers	Schneider
Control Devices (Control Switches, Pushbuttons)	Möller RMQ Titan
Indicator Lights 24V=	Moeller RMQ Titan
Panel Buttons and Panel Indicators	Moeller RMQ Titan
Proximity Switches	IFM
Light Curtains	IFM, Sick
NH Load Break Switches	Klöckner-Moeller, Siemens
Main Switches	Klöckner-Moeller
Busbar Systems	Klöckner-Moeller
Busbar Adapters	ABB
Circuit Breakers	ABB
Terminal Blocks	Wieland
Control Transformers	Block, Siemens, IFM
Frequency Inverters	Danfoss VLT oder FC
Control Cabinets (Indoor)	Rittal Edelstahl (Changes only with agreement)

Control Cabinets (Outdoor)	Rittal Edelstahl
Emergency Stop	Moeller RMQ Titan
Electropneumatic Positioners	Samson Typ 3767
Transducers, Control Devices	nach Absprache
Cable Trays	Wire mesh trays in stainless steel (Ackermann)
Emergency Shutdown Devices	Moeller
Flow Meters (Conductive)	Non Contact Conductivity: IDM e.g. Endress & Hauser Promag 50 Non-conductive: Ultrasound or Mass Flow Measurement (Coriolis)

XVII. Requirements for energy measurement and efficiency

a.) Electric Devices

All motors with a rated output power of 0.75 – 375 kW must either meet at least the efficiency level IE3 or meet IE2 and be equipped with speed control. If the operating mode is continuous operation, motors with a rated output power of ≥ 4 kW must use the efficiency level IE4. Deviations from this must be discussed with AGF. The availability of IE4 motors must be verified.

b.) Energy Measurement

For complete switchgear with a connected load greater than 10 kW, current transformers must be installed in the main power lines, with the secondary lines routed through transformer disconnect terminals. If electric motors with a rated power of ≥3 kW are installed and are not continuously operated at full load, the use of a frequency converter must be evaluated and assessed.

c.) Compressed Air Level

The required pressure level for machines and systems with compressed air needs must be designed so that a maximum compressed air pressure of 5.5 bar is required. It must be evaluated whether the installation of a measuring device to capture the consumption of machines or systems is necessary. Any changes or deviations from this must be discussed in advance with the respective technical planning department or the technical managers.

d.) Water

All systems must be designed to conserve water. All open hoses, sprinklers, cleaning devices, etc., must be equipped with water-saving nozzles. It must be evaluated whether the installation of a measuring device to capture the consumption of machines or systems is necessary. Any changes or deviations from this must be discussed in advance with the respective technical planning department or technical managers.

XVIII. Requirements for IT and information security

a) General

In principle, the Supplier must comply with the requirements set out here. Should there be any violations of agreements or general problems in complying with security requirements, these must be reported to Agrarfrost immediately.

b) Software / Hardware

The hardware and software to be used must be up to date and must be supported and supplied with updates by the manufacturer for at least 2 years after commissioning. Known weak points must be rectified before commissioning, or a sustainable workaround must be used. In general, the hardware and software to be used and communication via networks must be agreed with

Agrarfrost IT or the Agrarfrost information security officer. This coordination must take place before the contract is concluded.

c) Vulnerability management

The hardware and software used must be continuously checked by the Supplier for new, known vulnerabilities. In the event of a new, known vulnerability, the Supplier must inform Agrarfrost and coordinate the use of a patch or workaround.

d) Patch management

Before commissioning, the software must be up to date. After commissioning, the Supplier must continue to provide updates and patches for the hardware and software used and install them after consultation with Agrarfrost IT and the operator of the system/machine. This process must be carried out at least twice a year, provided that relevant security updates are available. If support for an operating system or software used is discontinued by the manufacturer, the Supplier must offer an appropriate alternative solution or look for other solutions with Agrarfrost. The Supplier must inform Agrarfrost in good time before the end of manufacturer support. If the Supplier only delivers the applications or functions of the system or machine and Agrarfrost is responsible for the update management of the underlying layers such as the operating system, the Supplier must nevertheless guarantee the full functionality of its delivered service, even in the event of patches to the underlying system platform.

e) System hardening

The supplier must ensure that the systems used only use software that is minimally necessary for operation and service provision. Any software beyond this must not be installed unless it has been agreed between Agrarfrost, specifically Agrarfrost IT and the Supplier. Furthermore, the Supplier must ensure that there are no known backdoors in the software. In addition, the Supplier must enable the change of any standard password and generally adhere to Agrarfrost's specifications for passwords. Required network services must be documented, all others must be deactivated.

f) Remote access

The Supplier must ensure that the confidentiality, availability and integrity of Agrarfrost's assets and services are guaranteed for remote access. Remote access should only take place for a limited period of time and in coordination with Agrarfrost. In principle, Agrarfrost specifies the technology for remote access. Remote access requires the use of multi-factor authentication and is always issued on a personalized basis. If this cannot be guaranteed due to a large number of people carrying out the maintenance, the Supplier must ensure that the use of the access is documented (who, when). This use can be requested by Agrarfrost at any time and must be made available within 10 working days in this case. If an employee (with remote access at Agrarfrost) of the Supplier leaves, Agrarfrost must be informed immediately so that the access can be blocked.

g) Documentation

The supplier is expected to provide any documentation that facilitates the use of the solution offered. The usual scope of such documentation, although not limited to this, includes the following items: - List of hardware - List of software (including operating system and patch level) - Overview of system architecture (may be part of the design documentation) - Communication matrix - Overview of data flows (data flow diagrams) - Existing user accounts and roles and their permissions - Description of proprietary (non-industry standardized) security mechanisms (expectation to understand the principles and implementation of such a solution) - Further documentation, specified as part of the deliverable or order, which ensures the security of the solution If changes are made to the delivered solution, the supplier is expected to include these in the documentation.

h) Security incidents

The Supplier is obliged to immediately report to Agrarfrost any security incidents that could potentially have or have had a negative effect on tangible and intangible assets delivered or stored on the information system at Agrarfrost. This could also be, for example, industrial espionage or a security vulnerability in the source code. In such cases, the Supplier shall provide a final report in addition to the obvious interim information.

Replaces: SD TE 002/09
Reason for Change: Extension of content XVIII

Responsible for this document
Head of Technics