Checklist for Automatic Guided Vehicle (AGV) Systems

Company: _____

Street: _____

Postcode/town: _____ County/state: _____

Department: _____ Responsibility of: _____

Telephone: _____ Fax: _____ Email: _____

1. General information

1.1. In which branch / industrial sector is the AGV to be used ?

Description: _____

_____

1.2. In what areas is the AGV to be used?

- o Stores
  - o Automated high-bay store (HBS)
  - o Racking store
  - o Block store
- o Manufacturing
- o Material supply and disposal for machine tools
  - o Direct o Indirect
- o Material supply and disposal for processing points
- o Material supply and disposal for preparation points
  - o Individual preparation points o Collection points (rail stations)
- o Assembly
  - o Material supply and disposal for fixed assembly points
  - o Movable assembly (vehicle as an assembly point)
- o Goods receipt
- o Goods despatch
- o Miscellaneous areas
  Please specify _____

o Indoor areas only

o Indoor and Outdoor areas

o Outdoor areas only

1.3. For what hours of the day will the AGV be in use ?

Working days from _____ to _____ Sunday from _____ to _____

Saturday from _____ to _____ Public holidays from _____ to _____

1.4. Are there any special regulations which must be observed in your company ?

o Safety o Factory standards

o Resources o Computers and controllers

o Maintenance o If yes, please specify or append to this checklist.

1.5. Are there any particular environmental conditions to be taken into account?

o Temperatures from _____°C to _____°C

o Relative humidity from _____% to _____%

o Dirt (chippings, dust .....) _____

o Corrosive materials (gases, fluids...) _____

o Clean room Specify area _____

o Water spray

2. Material flow and handling

2.1. What will be transported ?

Please specify the goods to be transported _____

2.2. What transport units will make up the goods to be transported ?

Transport unit	Length (mm)	Width (mm)	Height (mm)	Weight (kg)
o Pallets	_____	_____	_____	_____
o Wood	_____	_____	_____	_____
o Metal	_____	_____	_____	_____
o Plastic	_____	_____	_____	_____
o Wire sided stillages	_____	_____	_____	_____

Transport unit	Length (mm)	Width (mm)	Height (mm)	Weight (kg)
o Containers	_____	_____	_____	_____
o Wood	_____	_____	_____	_____
o Metal	_____	_____	_____	_____
o Plastic	_____	_____	_____	_____
o Individual parts	_____	_____	_____	_____
	_____	_____	_____	_____
o Special cargo	_____	_____	_____	_____
	_____	_____	_____	_____

Must an allowance be made for the parts being transported projecting over the transport unit ?

o Max. projection on all sides _____ mm

o Max. projection in the _____ mm

o Loading from one side _____

Please specify position of center of gravity:_____

2.3. How will the transport units be presented for removal ?

o Manually

- o On the floor
- o Steel stillages OK stillage _____ mm
- o Other _____ mm

o Automatically

- o On the floor
- o Steel stillages OK stillage _____ mm
- o Chain conveyor OK chain _____ mm
- o Roller track OK roller _____ mm
- o Belt OK belt _____ mm
- o Transfer device OK- _____ mm
- o Lift _____
- o Other _____

- o Stores equipment
- o Racks bottom layer _____ mm no. of storage holes _____
  top layer _____ mm aisle width _____ mm
  hole height _____ mm main truss lower edge _____ mm

2.4. How many transport movements are to be carried out per hour ?

Please supply the number of transport movements in the attached transport matrix.

2.5. Layout

Please attach to the checklist a layout drawing (in DXF format when available) on a scale of 1 : 100 or 1 : 200 from which the following details can be obtained:

_____ Traffic of other sorts (in ex. forklifttrucks, people,

_____ Travel paths along which the AGV is to move

_____ Transfer positions for load acceptance / deposit

_____ Door passages (automatic doors, sliding doors)

_____ Fire doors

_____ Lifts dimensions, number of floors, lift type ...)

_____ Factory equipment

_____ Expansion joints (please specify design)

_____ Cable ducts in the floor on the travel paths

_____ Shaft covers on the travel paths

_____ Escape routes

_____ Inclines up max. _____% down max. _____%

_____ Guard fences

_____ Minimal ceiling height in AGV parcour

_____ Battery changing / charging area

_____ Maintenance positions (station) for the AGV when idle

2.6. What is the nature of the travel path surface finish ?

o Indoor area
o Concrete floor o Industrial surfacing o Wood
o Plastic sealant o Linoleum o Tiles
o Other, please specify _____

o Outdoor area
o Concrete floor o Asphalt o Stelcon tiles
o Other, please specify _____

2.7. Do you already have a vehicle power concept in mind ?

o Automatic battery charging

o Manual battery change

2.8. Do you already have an idea about the number of AGVs ?

_____

_____

2.9. Do you have a preference for one of the following navigation principles?

o inductiv o free range

Please comment: _____

_____

3. Transport organisation

3.1. How will the AGV be informed of its destination ?

o Call buttons at the halt positions and destinations issued manually on the vehicle

o Buttons at the halt positions for calling the vehicle, with destinations issued automatically

o Operator terminals at the halt positions

o Automatically, by 'busy' indicators

o From a higher level computer (HOST) to the AGV's central controller. Info to HOST:

Maker: _____Type:_____ Operating system:_____

Interface: _____ Protocol: _____

HOST functions: _____

_____

_____

3.2. Describe briefly the required sequence of transport activities and the handling of the load units at the destination stations

Apart from the sequence of transport activities, describe also the exchanges of information and their contents.

Please append this description to the checklist:

3.3. Do you have particular requirements which the AGV's controller must meet ?

o Operating system? _____

o Backup needed? o cold o warm o hot

o Visualisation of AGV system?

Further requirements: _____

_____

3.4. Are there interfaces to other subsystems / controllers ?

o Yes o No

If yes, what are they ? _____

_____

4. Conditions on the construction site

4.1. When can the installation of the AGV system be undertaken ?

o During the day from _____o`clock to _____ o`clock

o At night from _____ o`clock to _____ o`clock

o At weekends from _____ o`clock to _____ o`clock

o Installation and commissioning during production? o yes o no

4.2. Are there particular regulations or measures which must be taken into account in the installation and commissioning of the AGV system ?

o Yes o No

If yes, what are they ? _____

_____

_____

4.3. Are there other construction site conditions which must be taken into account ?

o Yes o No

If yes, what are they ? _____

_____

_____

4.4. By when is the AGV system to be implemented ?

Purchase order _____

Delivery: _____

Installation: _____

Commissioning: _____

Ready to operate: _____

4.5. Will you (customer) be providing any of the services ?

o Yes o No

If yes, what are they ? _____

_____

_____

Date: _____ Name:_____

Transport matrix

No. of „load unit“ movements / hour

from / to								

The above figures are

o peak values? o average values ===> peak values to be considered _____% higher