

**DENSO Robotics**  
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densorobotics-europe.com

# **DENSO** robotics

## Training Center

Brochure 2023



# Operator Training

## Topics

- Robot system with RC8A Controller
- Robot / operating

**Targeted Personnel:** Robot operators

**Seminar Duration:** 1 Day at DENSO Training Center, 9:00 h - 17:00 h

**Contents:**

- ✓ Safety precautions and safe operating of robots
- ✓ Fundamentals of robots
- ✓ Fundamentals of robot controller
- ✓ Menu Structure of Teach Pendant
- ✓ Robot coordinate systems
- ✓ Manual operation of robot in different coordinate systems
- ✓ Teaching of positions
- ✓ Starting and stopping of robot programs
- ✓ Handling basic errors and error logs

**No. of Participants:** 2 - 6 Persons

**Price:** 600,-€ / Person

**Note:** The above mentioned cost includes lunch and drinks.  
Hotel costs are not included.

**Contact:** Customer Support Team

@: [support@denso-robotics-europe.com](mailto:support@denso-robotics-europe.com), t: +49 (0) 6105 2735 150



# Basic Training

## Topics

- Robot System with RC8A controller / robot software WINCAPS III
- Robot / operating / programming

**Targeted Personnel:** Robot operator / programmer

**Seminar Duration:** 2 Days at DENSO Training Center, 9:00 h - 17:00 h

- Contents:**
- ✓ Safety precautions and safe operating of robots
  - ✓ Calibration of a robot system (CALSET)
  - ✓ Robot coordinate systems
  - ✓ Handling errors and error logs
  - ✓ Teaching of positions
  - ✓ Creating new PACscript-Projects
  - ✓ Movement commands (MOVE L, MOVE P, DEPART, APPROACH...)
  - ✓ Accuracy / smoothing of movements
  - ✓ Teach check operating mode
  - ✓ Program execution in auto mode
  - ✓ Timer commands (DELAY, WAIT)
  - ✓ Working with Wincaps III (configuration, programming, simulation)
  - ✓ Digital I/O's (SET, RESET, WAIT)
  - ✓ Velocity control statements (SPEED, ACCEL, DECEL)
  - ✓ Working with user-defined coordinate systems
  - ✓ Collision areas (AREA), functions virtual fence and exclusive control
  - ✓ Singularity

**No. of Participants:** 2 - 6 Persons

**Price:** 1200,-€ / Person

**Note:** The above mentioned cost includes lunch and drinks.  
Hotel costs are not included.

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# Advanced Training

## Topics

- Robot system with RC8A controller / robot software WINCAPS III
- Robot / programming / interfaces

**Targeted Personnel:** Programmer (DENSO Basic Training is a pre-requisite)

**Seminar Duration:** 2 Days at DENSO Training Center, 9:00 h - 17:00 h

- Contents:**
- ✓ Structured programming
  - ✓ Loops and branching (FOR...NEXT, DO...LOOP, IF THEN ELSE, ...)
  - ✓ Local and global variables, header files
  - ✓ Subprograms and calling subprograms (CALL ...)
  - ✓ Instructions (@a, WAITMOTION, MOTIONSKIP, ...)
  - ✓ User-defined error messages
  - ✓ Supervisory tasks (TSR)
  - ✓ Usage of periphery interfaces (Mini I/O, Ethernet, Profinet...)
  - ✓ External control using various interfaces
  - ✓ Working with system variables (CURRPOS, SYSSTATE...)
  - ✓ Force control (CURLMT, FORCECTRL)
  - ✓ Using predefined functions (palletizing, axis Enable...)
  - ✓ Safety Motion
  - ✓ Panel Designer

**No. of Participants:** 2 - 6 Persons

**Price:** 1200,-€ / Person

**Note:** The above mentioned cost includes lunch and drinks.

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# COBOTTA Basic Training

## Topics

- Robot / robot software WINCAPS III
- Robot / controller / programming

**Targeted Personnel:** Robot Operator / programmer

**Seminar Duration:** 2 Days at DENSO Training Center, 9:00 h - 17:00 h

- Contents:**
- ✓ Safety precautions and safe operating of robots
  - ✓ Working with COBOTTA
  - ✓ Robot coordinate systems
  - ✓ Handling errors and error logs
  - ✓ Teaching of positions
  - ✓ Creating new PACscript-Projects
  - ✓ Movement commands (MOVE L, MOVE P, DEPART, APPROACH...)
  - ✓ Accuracy / smoothing of movements
  - ✓ Teach Check Operating Mode
  - ✓ Program execution in auto mode
  - ✓ Timer commands (DELAY, WAIT)
  - ✓ Working with Wincaps III (Configuration, Programming, Simulation)
  - ✓ Digital I/O's (SET, RESET, WAIT)
  - ✓ Velocity control statements (SPEED, ACCEL, DECEL)
  - ✓ Working with user-defined coordinate systems
  - ✓ Collision areas (AREA), functions virtual fence and exclusive control
  - ✓ Singularity

**No. of Participants:** 2 - 6 Persons

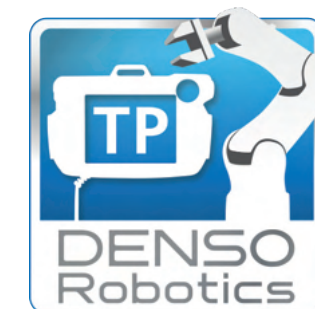
**Price:** 1200,-€ / Person

**Note:** The above mentioned cost includes lunch and drinks.  
Hotel costs are not included.

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# Conveyor Tracking Training

## Topics

- Robot system with RC8A controller / robot software Wincaps III
- Robot / operating / programming

**Targeted Personnel:** Programmer (DENSO Basic & Advanced training is a pre-requisite)

**Seminar Duration:** 1 Day at DENSO Training Center, 9:00 h - 17:00 h

**Contents:**

- ✓ Hardware explanation
- ✓ Commissioning of conveyor tracking system
- ✓ Sensor tracking
- ✓ Vision guided tracking
- ✓ Conveyor tracking with Master/Slave system
- ✓ Explanation of special conveyor tracking commands
- ✓ Practical exercises

**No. of Participants:** 2 Persons

**Price:** 1200,-€ / Person

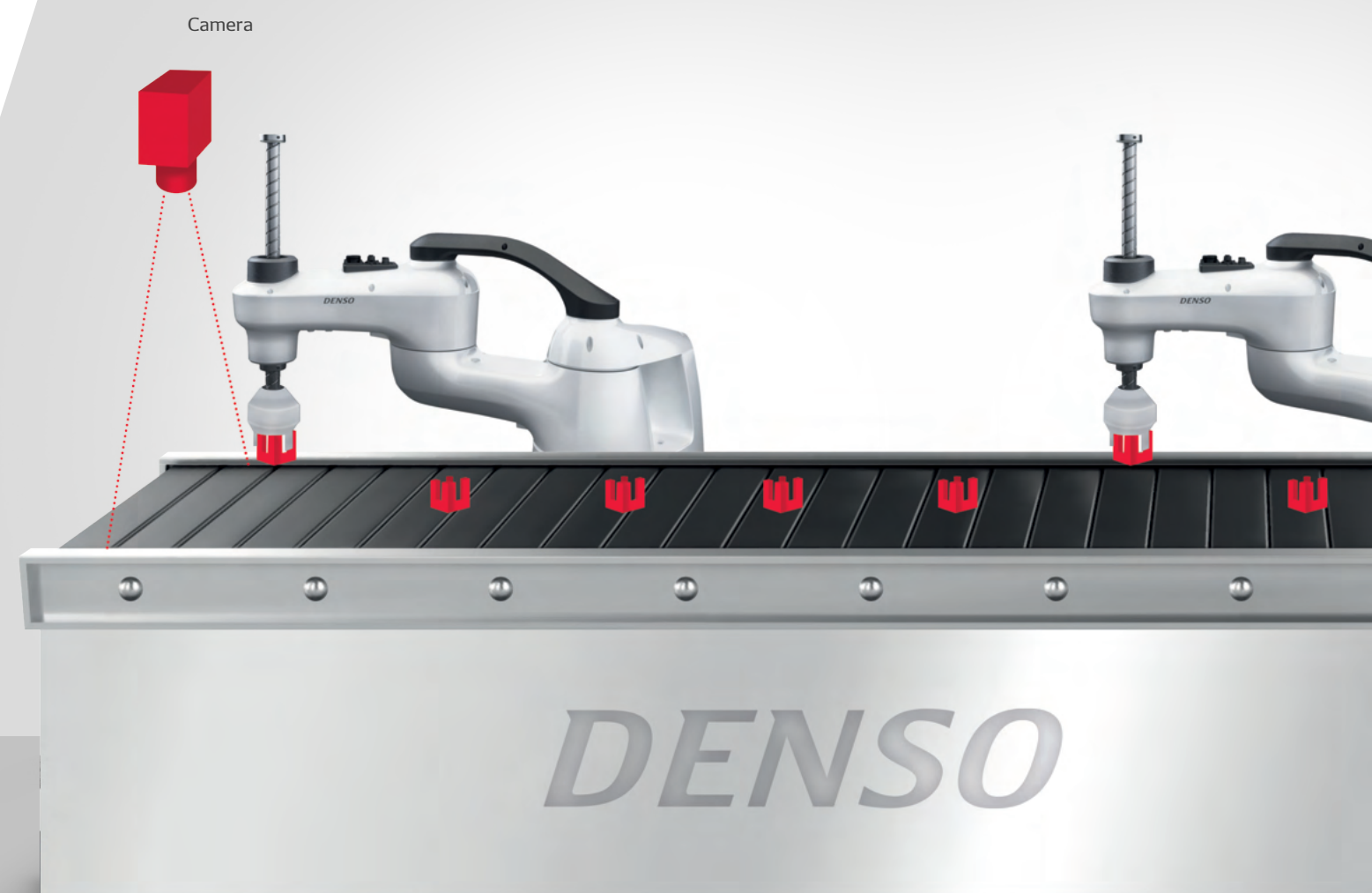
**Note:** The above mentioned cost includes lunch and drinks.

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# Maintenance Training

## Topics

- Robot system with RC8A controller/ robot software WINCAPS III
- Robot / controller / components

**Targeted Personnel:** Maintenance / operator

**Seminar Duration:** 1 day SCARA robots and/or

1 day 5/6 Axis and/or

1 day controller at DENSO Training Center

9:00 h - 17:00 h

- Contents:**
- ✓ Constructional overview of robots (mechanical /electrical)
  - ✓ Adjustment and calibration of robot components
  - ✓ Exchange of mechanical and electrical parts
  - ✓ Troubleshooting of real time mechanical and electrical problems

**No. of Participants:** 2 - 4 Persons

**Price:** 600-€ / Person / Day

**Note:** The above mentioned cost includes lunch and drinks.

Hotel costs are not included.

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# ORiN2

## Topics

- Robot System with RC8A controller / robot software WINCAPS III
- Robot / controller / programming

**Targeted Personnel:** Programmer

**Seminar Duration:** 1 Day at DENSO Training Center, 9:00 h- 17:00 h

- Contents:**
- ✓ Preparing the robot controller for working with ORiN
  - ✓ Establishing communication with the controller through ORiN
  - ✓ Variable read and write
  - ✓ Moving the robot through ORiN
  - ✓ Program start and stop

**No. of Participants:** 2 - 6 Persons

**Price:** 600,-€ / Person

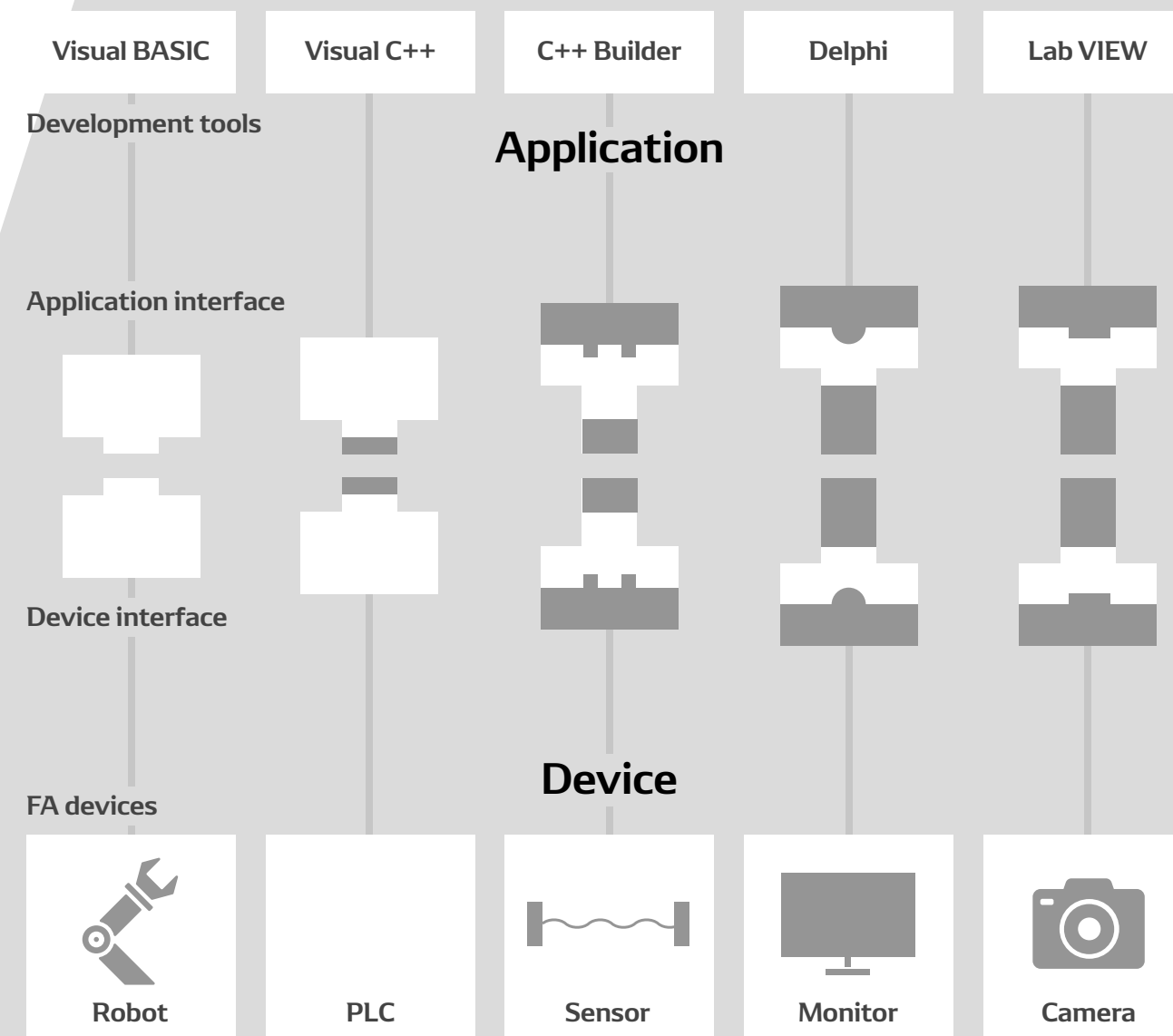
**Note:** The above mentioned cost includes lunch and drinks.

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# Training Calendar 2023

## Q1

The trainings are held in German. Trainings in English are possible on request.

January	February	March
1 Su New year	1 We	1 We
2 Mo	2 Th ORiN Training	2 Th ORiN Training
3 Tu	3 Fr	3 Fr
4 We	4 Sa	4 Sa
5 Th ORiN Training	5 Su	5 Su
6 Fr	6 Mo Basic Training	6 Mo Basic Training
7 Sa	7 Tu Basic Training	7 Tu Basic Training
8 Su	8 We Advanced Training	8 We Advanced Training
9 Mo Basic Training	9 Th Advanced Training	9 Th Advanced Training
10 Tu Basic Training	10 Fr	10 Fr
11 We Advanced Training	11 Sa	11 Sa
12 Th Advanced Training	12 Su	12 Su
13 Fr	13 Mo	13 Mo
14 Sa	14 Tu COBOTTA Training	14 Tu COBOTTA Training
15 Su	15 We COBOTTA Training	15 We COBOTTA Training
16 Mo	16 Th	16 Th
17 Tu COBOTTA Training	17 Fr	17 Fr
18 We COBOTTA Training	18 Sa	18 Sa
19 Th	19 Su	19 Su
20 Fr	20 Mo	20 Mo
21 Sa	21 Tu Maintenance Training	21 Tu Maintenance Training
22 Su	22 We Maintenance Training	22 We Maintenance Training
23 Mo	23 Th Maintenance Training	23 Th Maintenance Training
24 Tu Maintenance Training	24 Fr	24 Fr
25 We Maintenance Training	25 Sa	25 Sa
26 Th Maintenance Training	26 Su	26 Su
27 Fr	27 Mo	27 Mo
28 Sa	28 Tu	28 Tu
29 Su		29 We
30 Mo		30 Th
31 Tu		31 Fr

## Q2

April	May	June
1 Sa	1 Mo Labour day	1 Th
2 Su	2 Tu Basic Training	2 Fr
3 Mo Basic Training	3 We Basic Training	3 Sa
4 Tu Basic Training	4 Th Advanced Training	4 Su
5 We Advanced Training	5 Fr Advanced Training	5 Mo COBOTTA Training
6 Th Advanced Training	6 Sa	6 Tu COBOTTA Training
7 Fr Good Friday	7 Su	7 We
8 Sa	8 Mo	8 Th Corpus Christi
9 Su Easter	9 Tu COBOTTA Training	9 Fr
10 Mo Easter Monday	10 We COBOTTA Training	10 Sa
11 Tu	11 Th	11 Su
12 We	12 Fr	12 Mo Basic Training
13 Th ORiN Training	13 Sa	13 Tu Basic Training
14 Fr	14 Su	14 We Advanced Training
15 Sa	15 Mo	15 Th Advanced Training
16 Su	16 Tu ORiN Training	16 Fr
17 Mo	17 We	17 Sa
18 Tu COBOTTA Training	18 Th Ascension Day	18 Su
19 We COBOTTA Training	19 Fr	19 Mo
20 Th	20 Sa	20 Tu Maintenance Training
21 Fr	21 Su	21 We Maintenance Training
22 Sa	22 Mo	22 Th Maintenance Training
23 Su	23 Tu Maintenance Training	23 Fr
24 Mo	24 We Maintenance Training	24 Sa
25 Tu Maintenance Training	25 Th Maintenance Training	25 Su
26 We Maintenance Training	26 Fr	26 Mo
27 Th Maintenance Training	27 Sa	27 Tu
28 Fr	28 Su Whitsun	28 We
29 Sa	29 Mo Whit Monday	29 Th ORiN Training
30 Su	30 Tu	30 Fr
	31 We	

Training Calendar 2023

Q3

July	August	September
1 Sa	1 Tu	1 Fr
2 Su	2 We	2 Sa
3 Mo	3 Th ORiN Training	3 Su
4 Tu	4 Fr	4 Mo Basic Training
5 We	5 Sa	5 Tu Basic Training
6 Th ORiN Training	6 Su	6 We Advanced Training
7 Fr	7 Mo Basic Training	7 Th Advanced Training
8 Sa	8 Tu Basic Training	8 Fr
9 Su	9 We Advanced Training	9 Sa
10 Mo Basic Training	10 Th Advanced Training	10 Su
11 Tu Basic Training	11 Fr	11 Mo
12 We Advanced Training	12 Sa	12 Tu COBOTTA Training
13 Th Advanced Training	13 Su	13 We COBOTTA Training
14 Fr	14 Mo	14 Th
15 Sa	15 Tu COBOTTA Training	15 Fr
16 Su	16 We COBOTTA Training	16 Sa
17 Mo	17 Th	17 Su
18 Tu COBOTTA Training	18 Fr	18 Mo
19 We COBOTTA Training	19 Sa	19 Tu Maintenance Training
20 Th	20 Su	20 We Maintenance Training
21 Fr	21 Mo	21 Th Maintenance Training
22 Sa	22 Tu Maintenance Training	22 Fr
23 Su	23 We Maintenance Training	23 Sa
24 Mo	24 Th Maintenance Training	24 Su
25 Tu Maintenance Training	25 Fr	25 Mo
26 We Maintenance Training	26 Sa	26 Tu
27 Th Maintenance Training	27 Su	27 We
28 Fr	28 Mo	28 Th ORiN Training
29 Sa	29 Tu	29 Fr
30 Su	30 We	30 Sa
31 Mo	31 Th	

Q4

October	November	December
1 Su	1 We	1 Fr
2 Mo	2 Th ORiN Training	2 Sa
3 Tu German Unity Day	3 Fr	3 Su 1. Advent
4 We COBOTTA Training	4 Sa	4 Mo Basic Training
5 Th COBOTTA Training	5 Su	5 Tu Basic Training
6 Fr	6 Mo Basic Training	6 We Advanced Training
7 Sa	7 Tu Basic Training	7 Th Advanced Training
8 Su	8 We Advanced Training	8 Fr
9 Mo	9 Th Advanced Training	9 Sa
10 Tu	10 Fr	10 Su
11 We	11 Sa	11 Mo
12 Th ORiN Training	12 Su	12 Tu COBOTTA Training
13 Fr	13 Mo	13 We COBOTTA Training
14 Sa	14 Tu	14 Th
15 Su	15 We COBOTTA Training	15 Fr
16 Mo Basic Training	16 Th COBOTTA Training	16 Sa
17 Tu Basic Training	17 Fr	17 Su
18 We Advanced Training	18 Sa	18 Mo
19 Th Advanced Training	19 Su	19 Tu Maintenance Training
20 Fr	20 Mo	20 We Maintenance Training
21 Sa	21 Tu Maintenance Training	21 Th Maintenance Training
22 Su	22 We Maintenance Training	22 Fr
23 Mo	23 Th Maintenance Training	23 Sa
24 Tu Maintenance Training	24 Fr	24 Su Christmas Eve
25 We Maintenance Training	25 Sa	25 Mo Christmas Day
26 Th Maintenance Training	26 Su	26 Tu 2nd Day of Christmas
27 Fr	27 Mo	27 We
28 Sa	28 Tu	28 Th
29 Su	29 We	29 Fr
30 Mo	30 Th ORiN Training	30 Sa
31 Tu		31 Su New Year's Eve

## Where we are

### DENSO ROBOTICS EUROPE / DENSO EUROPE B.V.

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64546 Mörfelden-Walldorf  
Deutschland

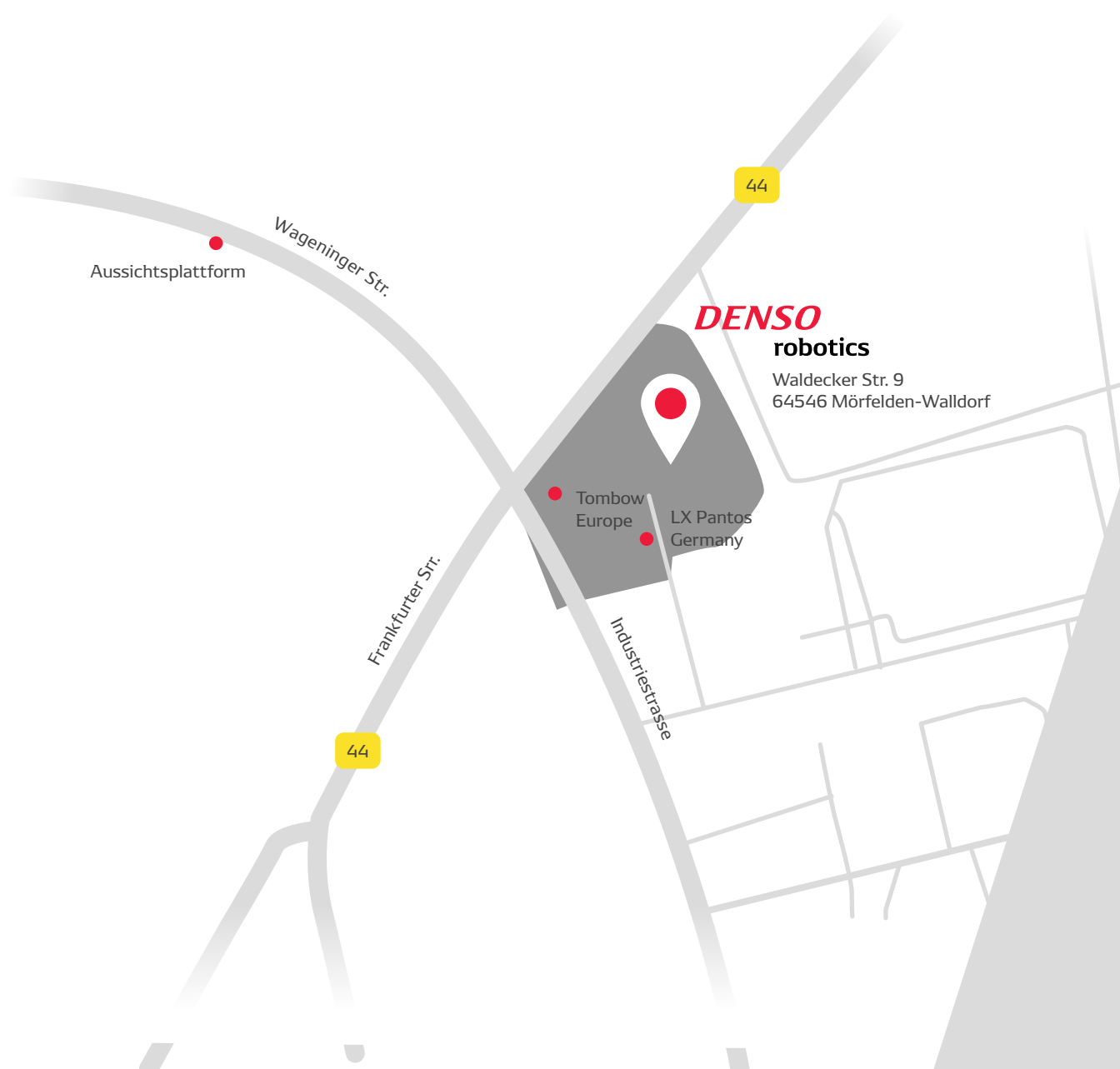
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**@:** [support@densorobotics-europe.com](mailto:support@densorobotics-europe.com) (für technischen Support)

**w:** [www.densorobotics-europe.com](http://www.densorobotics-europe.com)



### Hotels nearby

Holiday Inn Express Frankfurt Airport  
Langener Str. 200  
64546 Mörfelden-Walldorf

Hotel zum Löwen  
Langstrasse 68,  
64546 Mörfelden-Walldorf