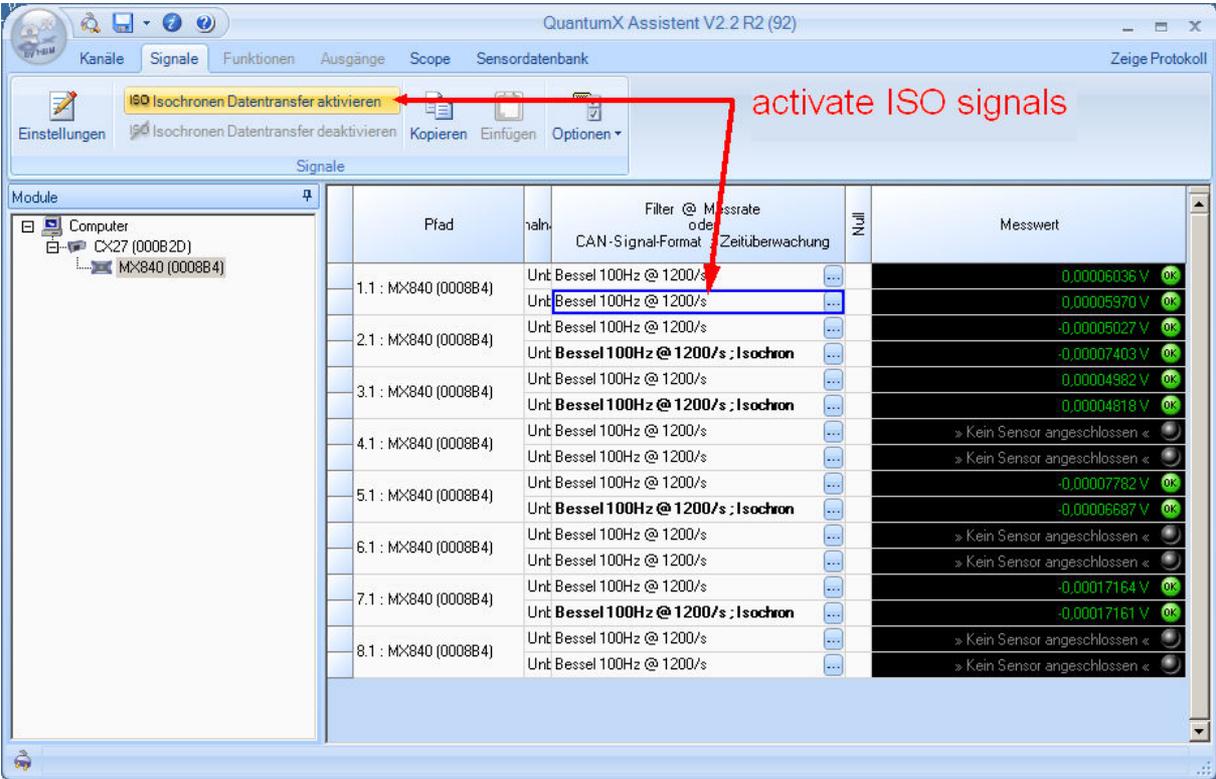


# Step by step instruction to use the CX27 with TwinCAT

## 1 Activate isochronous signals on the connected MX modules.

The MX modules are connected via FireWire cable with CX27.

In the “Signals” tab of QuantumX assistant, activate isochronous data transfer.



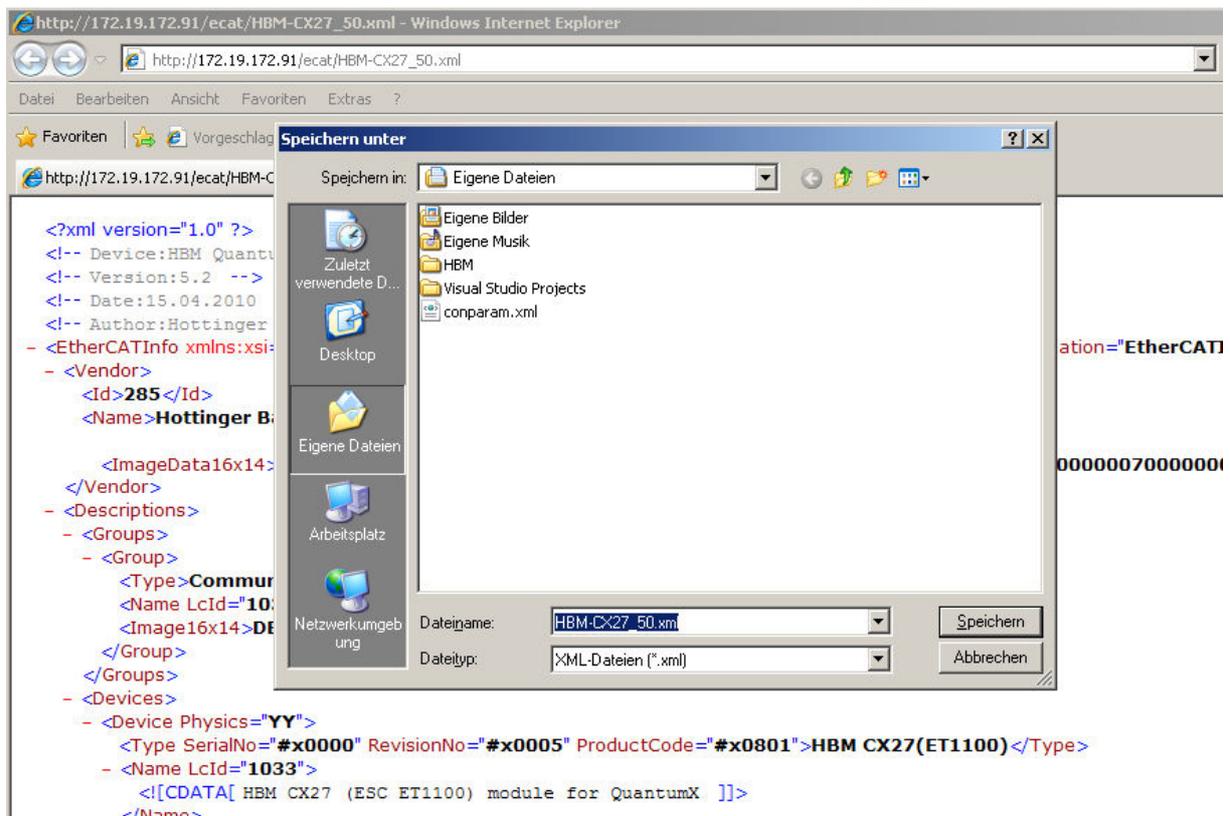
## 2 Download the EtherCAT ESI File from CX27.

The CX27 provides the following ESI files (EtherCAT Slave Information):

- **HBM-CX27.xml**  
ESI file without fixed mapped PDOs to EtherCAT sync-manager.
- **HBM-CX27\_50.xml**  
ESI file with 50 fixed mapped PDOs to the first input sync-manager.
- **HBM-CX27\_100.xml**  
ESI file with 100 fixed mapped PDOs to the first input sync-manager.
- **HBM-CX27\_199.xml**  
ESI file with 199 fixed mapped PDOs to the first input sync-manager.

The ESI files are downloadable from the CX27 using the following URL:

- **`http://[IP of CX27]/ecat/HBM-CX27****.xml`**

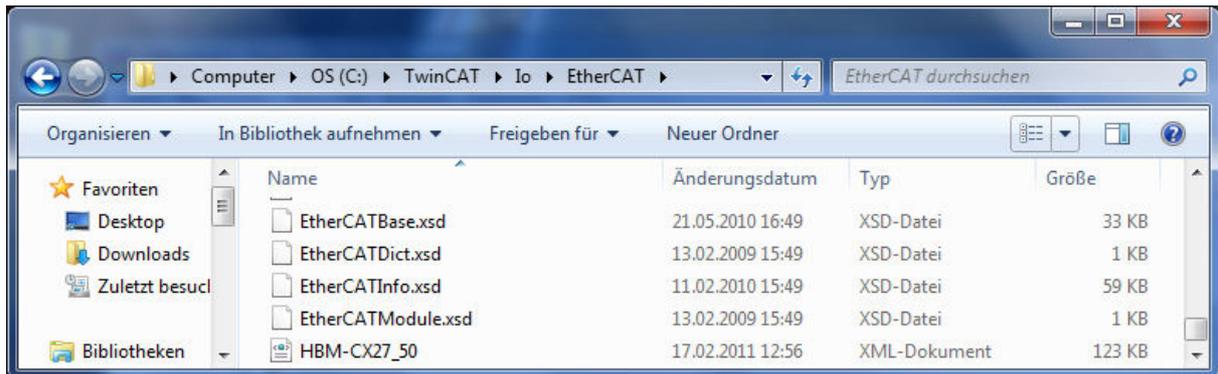


### 3 Pre configuration of TwinCAT environment

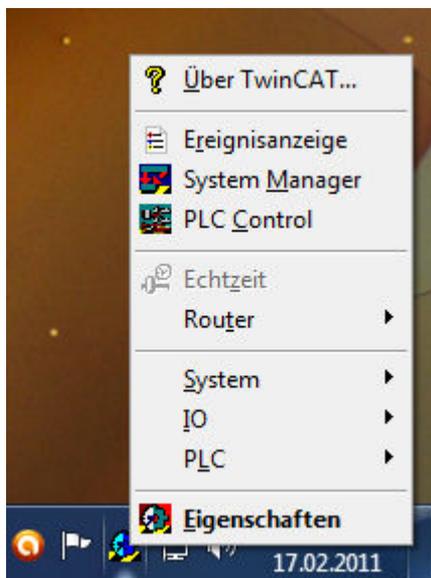
#### 3.1 Copy ESI in EtherCAT definition folder

The folder of EtherCAT definition files (ESI-File) is in TwinCAT “[c:]/TwinCAT/IO/EtherCAT”.

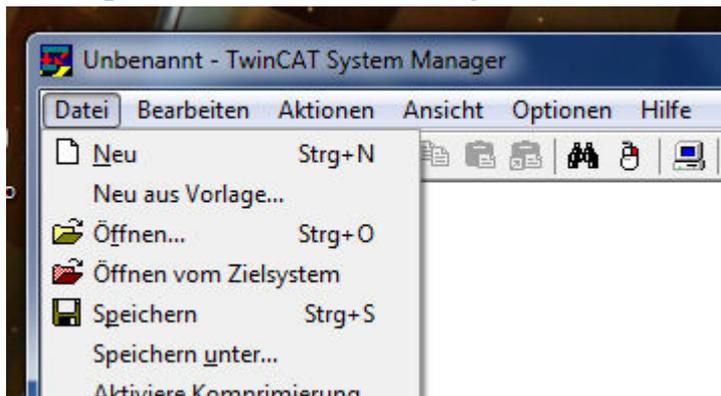
**NOTE: The TwinCAT and all EtherCAT Masters can only manage one single CX27 ESI-File.**



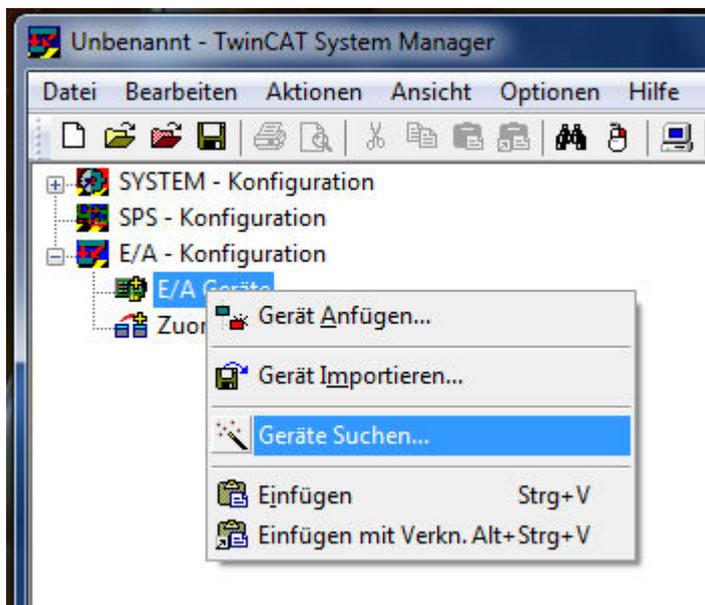
#### 3.2 Start TwinCAT with run TwinCAT system manager



### 3.3 Open a new TwinCAT Project



### 3.4 Scan devices

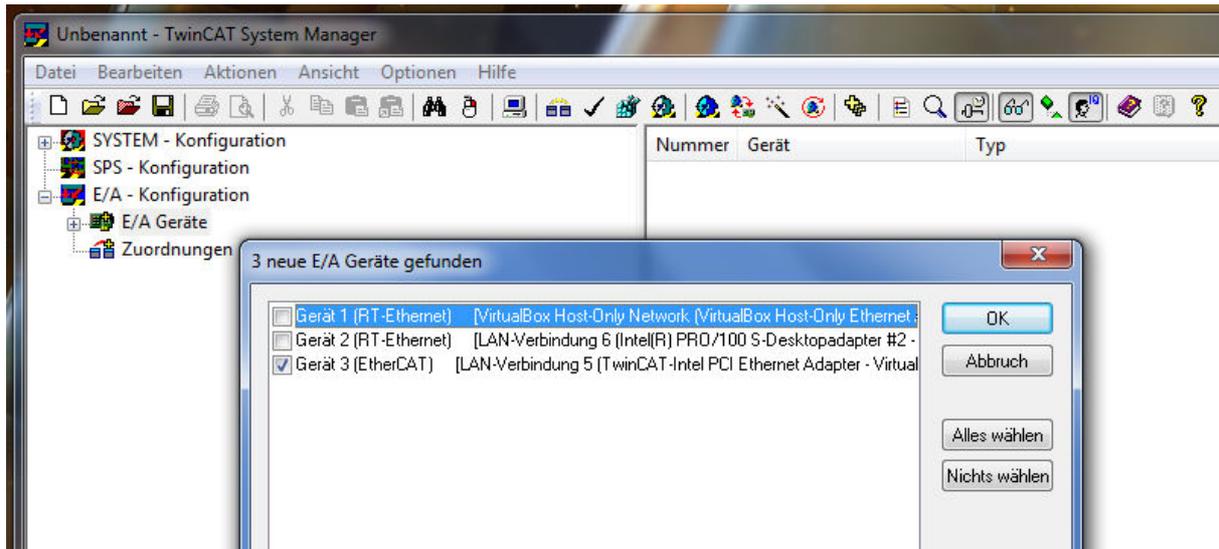


### 3.5 Press OK on this hint

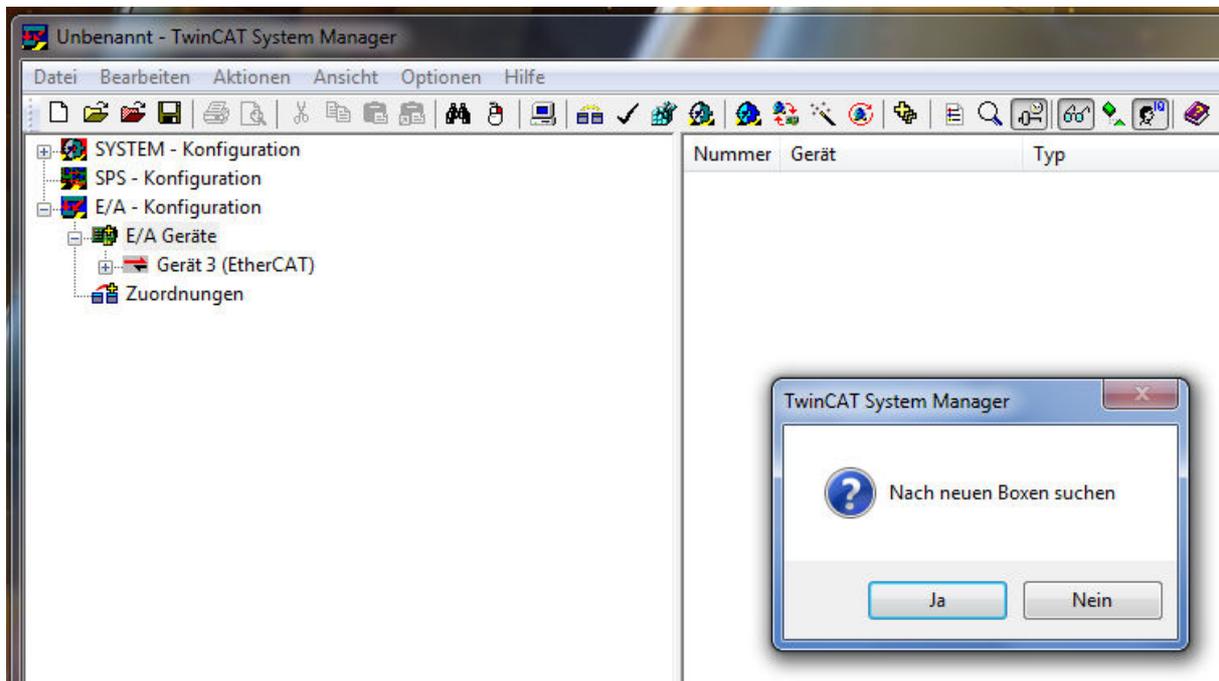
E/A - Konfiguration  
E/A Geräte  
Zuordnungen



### 3.6 Select only EtherCAT devices



### 3.7 Scan boxes



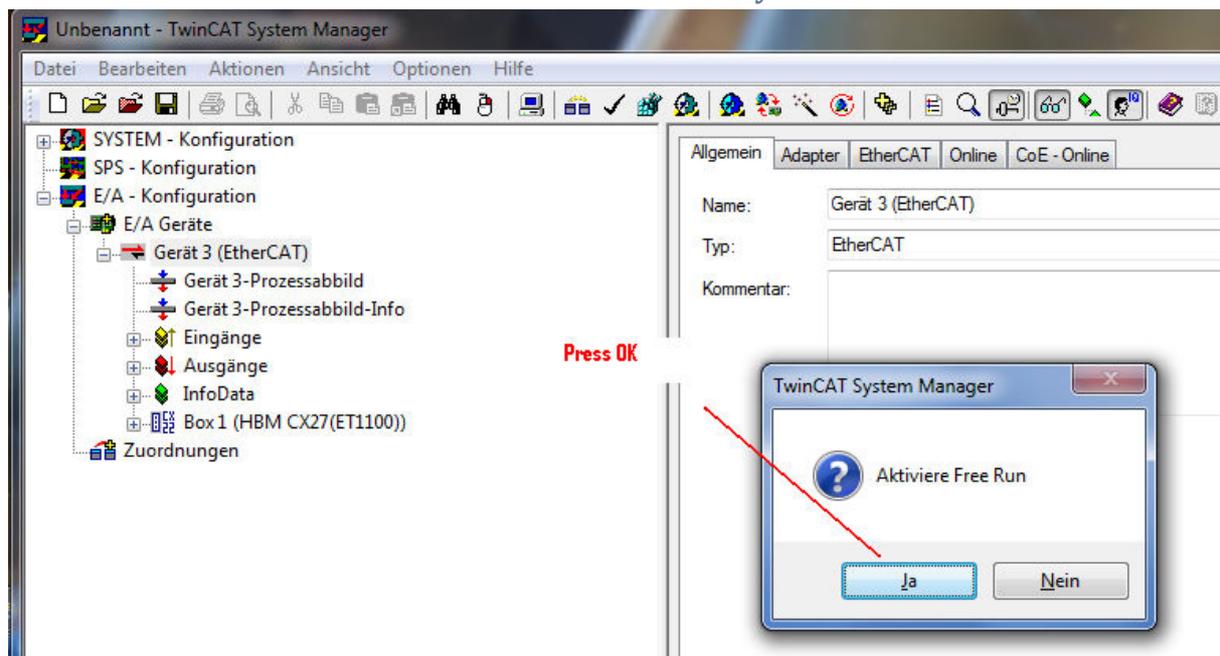
## 4 Configuration of TwinCAT Project

### 4.1 The next steps describes the handling with FIXED mapped PDO's

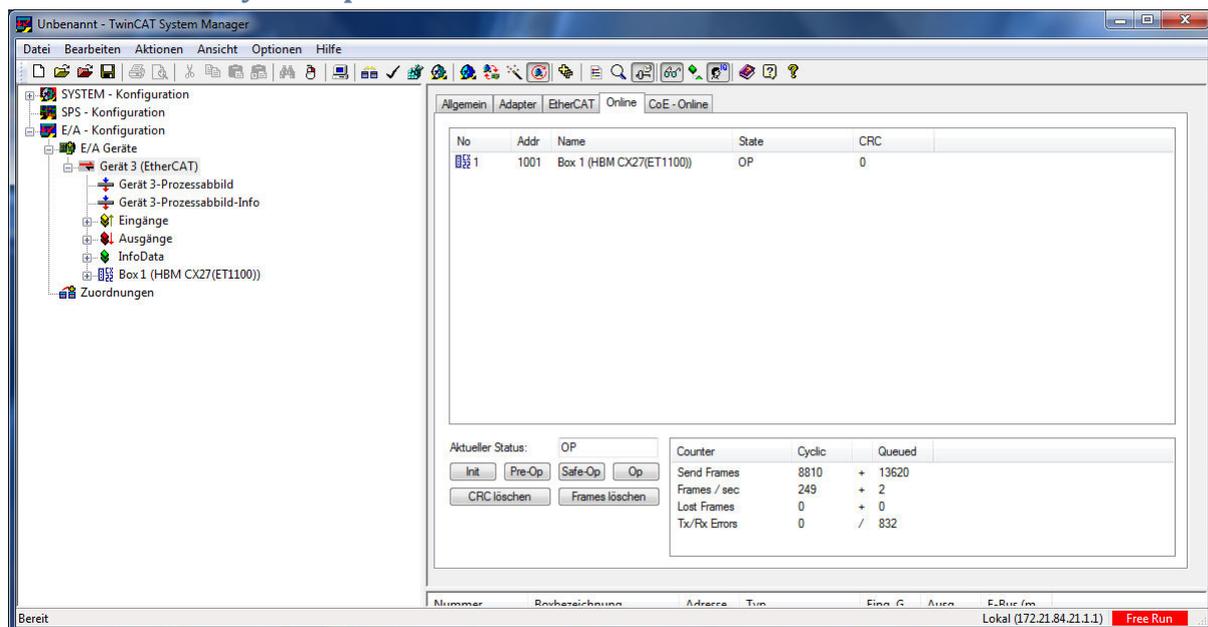
The PDO's are fixed mapped in ESI-File (e.g. ESI-File HBM-CX27\_50.xml).

For handling with dynamic PDO mapping (ESI-File HBM-CX27.xml) see section 4.2.

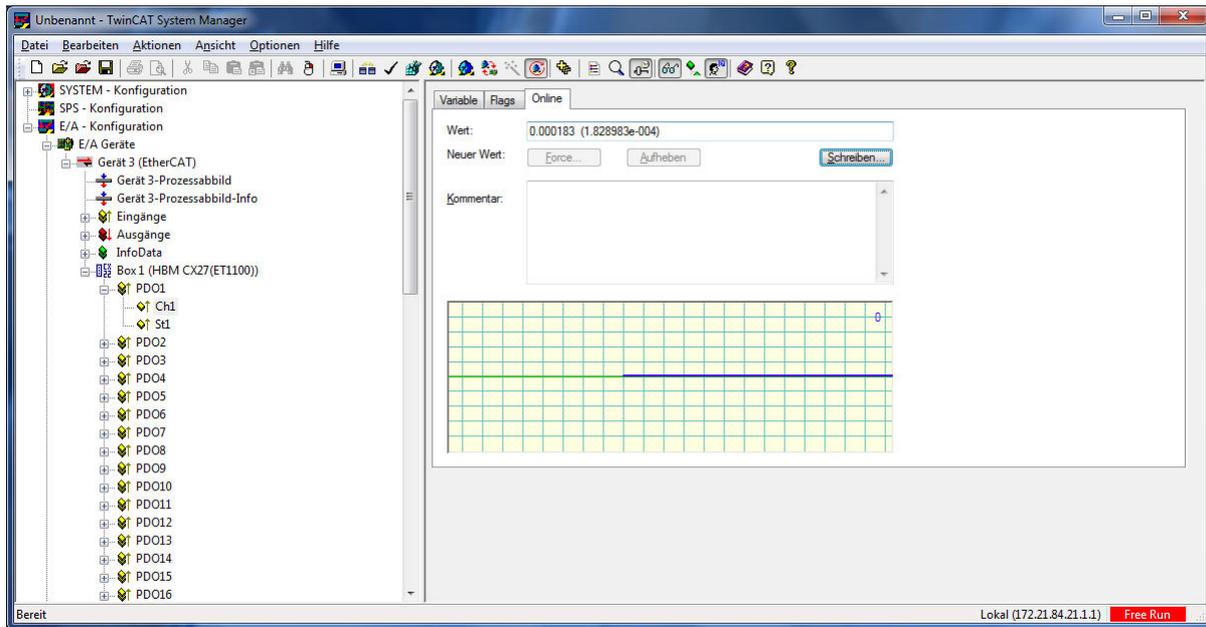
#### 4.1.1 You can activate the "Free Run Mode" directly after the scan of box.



#### 4.1.2 Now verify the Operation Mode



### 4.1.3 Now check the values

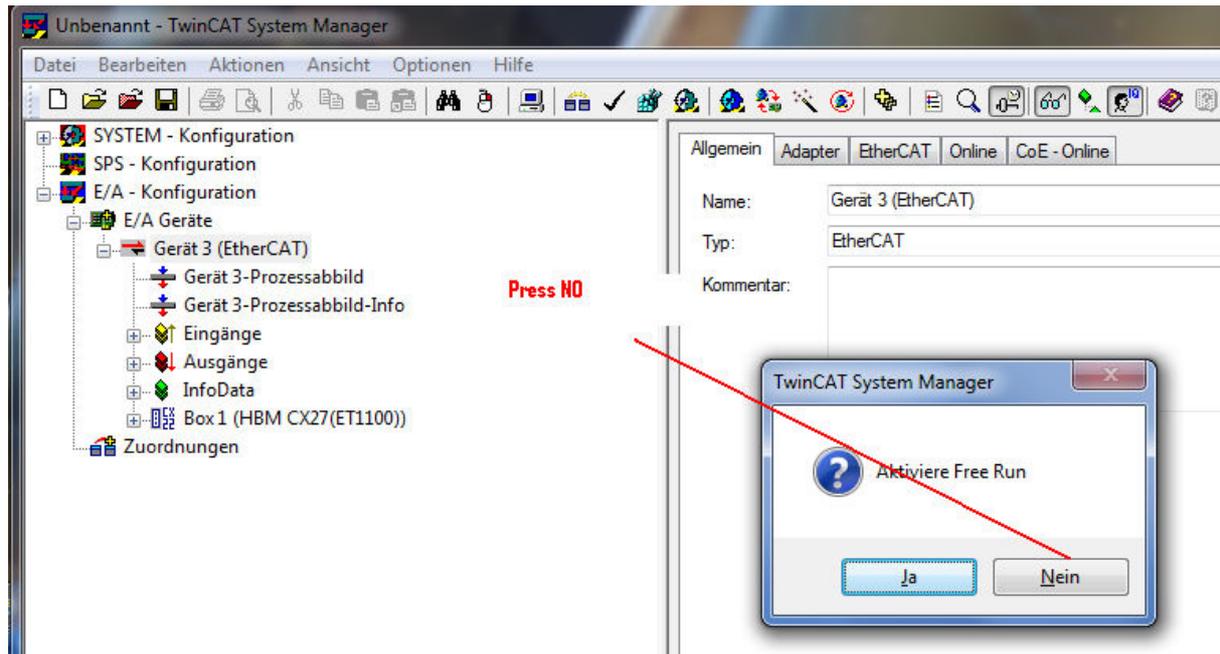


## 4.2 The next steps describes the dynamic PDO mapping

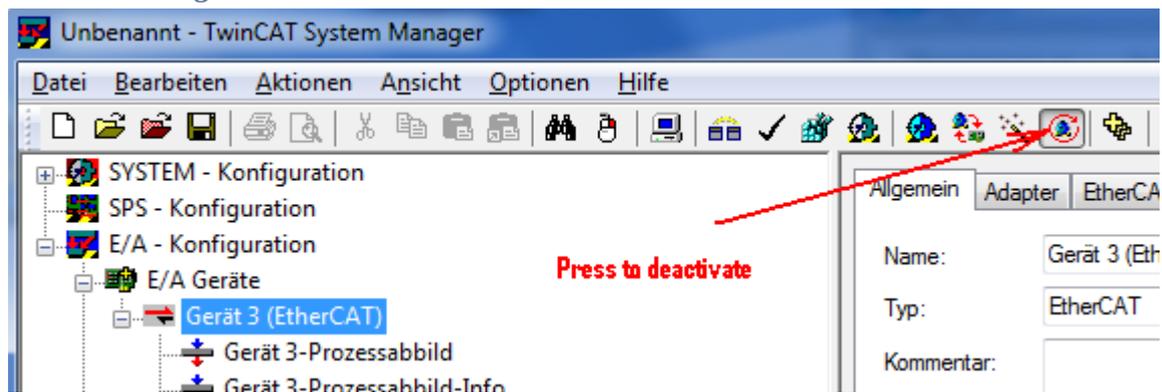
It used the ESI-File HBM-CX27.xml

### 4.2.1 Deactivate or don't activate the "Free Run Mode" directly after selecting the box.

#### 4.2.1.1 After scan

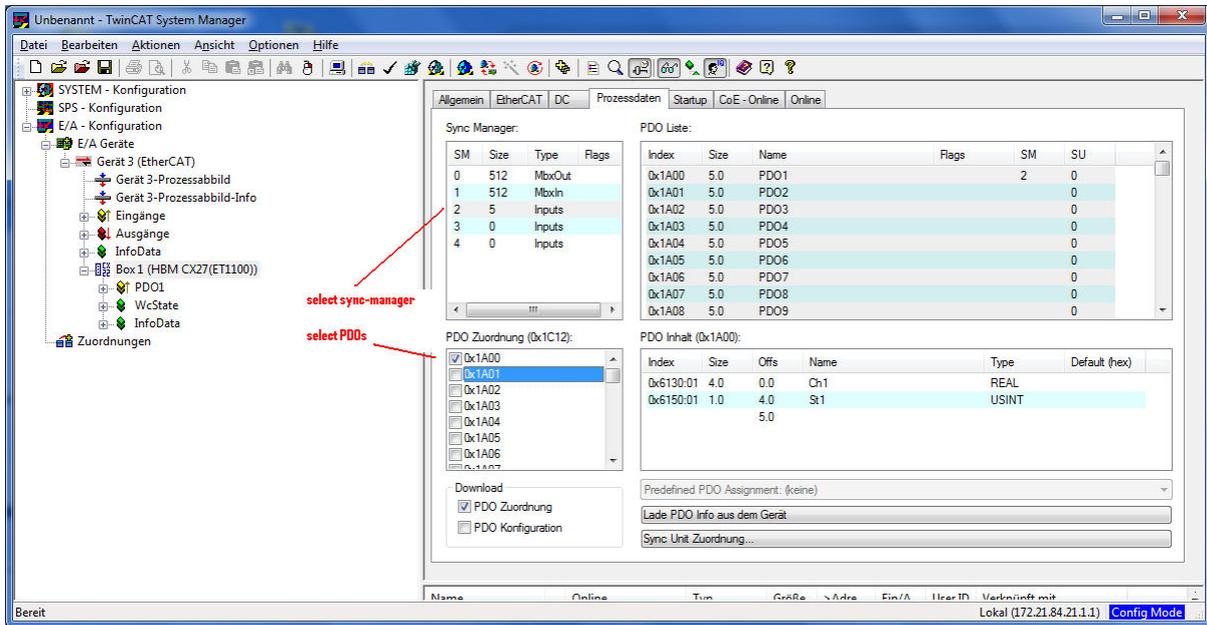


#### 4.2.1.2 During normal execution

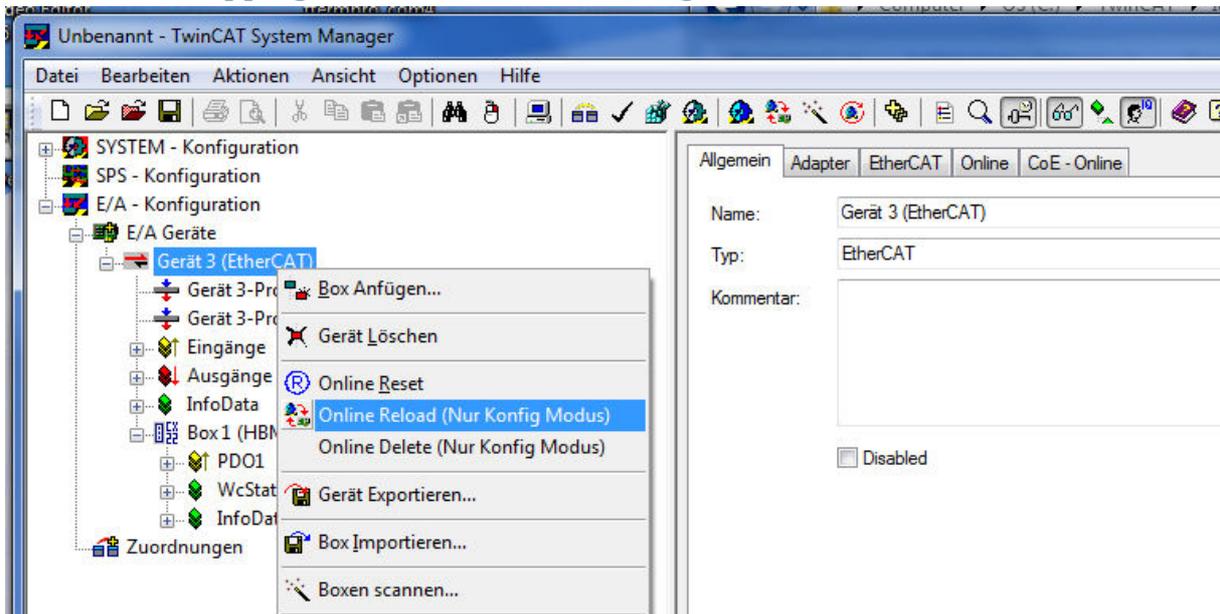


#### 4.2.2 Select CX27 box and click the “Process Data” tap.

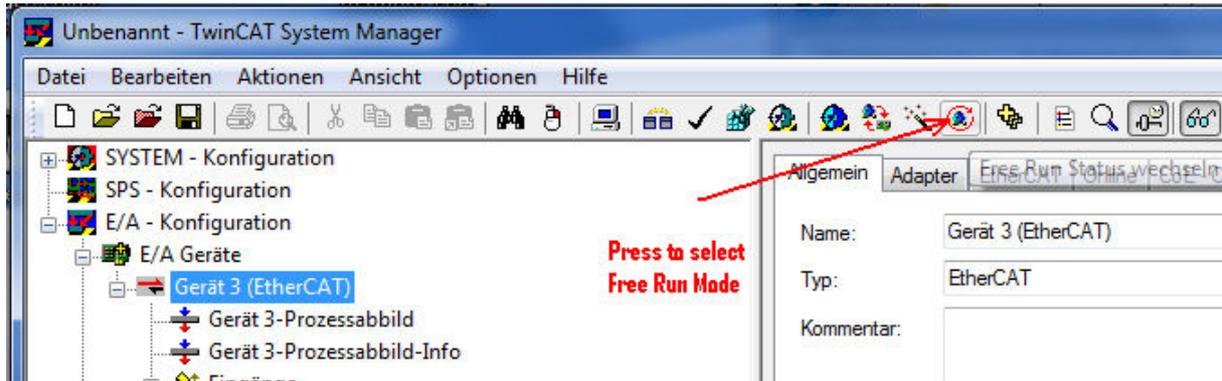
Now you can map the PDOs to different input sync-manager.



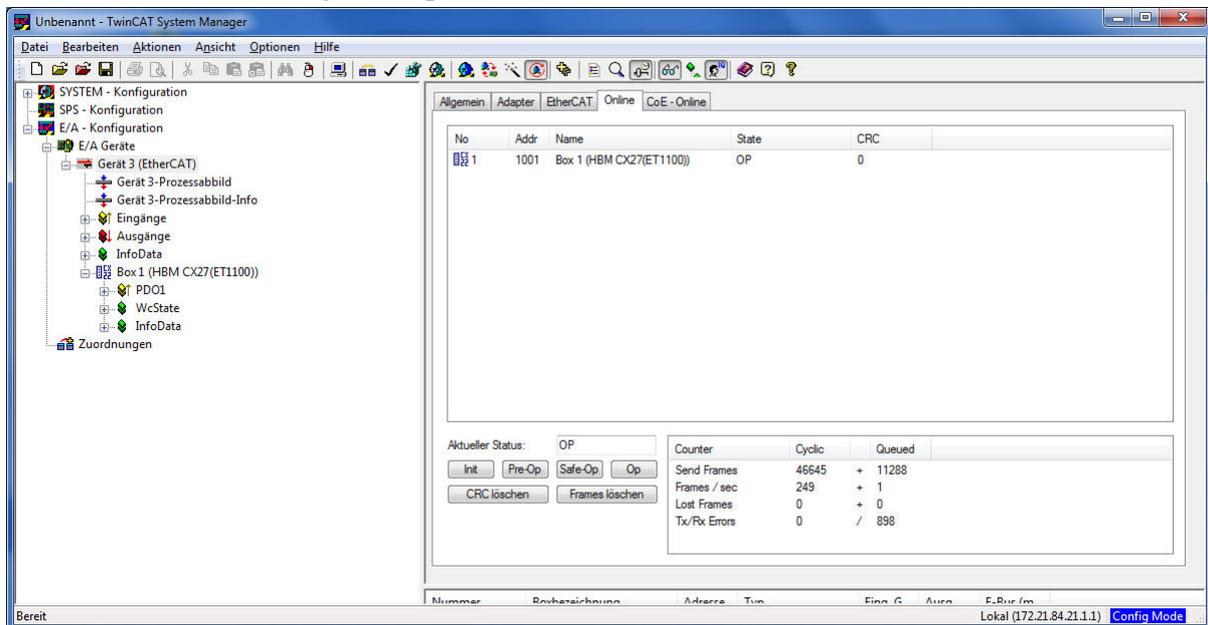
#### 4.2.3 After mapping of PDO's reload the configuration.



#### 4.2.4 The next step is the activation of “Free Run Mode”



#### 4.2.5 After then verify the Operational mode.



## 4.2.6 The last step is always to check the values

