

- ◆ This is the step-by-step descriptions of the PET imaging acquisition process, but in fact, I'm not sure if you need these contents.
- ◆ We are not allowed to install any other software on our workstation, so I'm sorry that I can only show the screenshots of each step instead of a video.

1. Creat the study folder and click “Setup”.

The screenshot displays the IAW PETCT software interface. The main window is titled "IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFw". The left sidebar shows a file explorer with a tree structure under "User Folders", including "CC", "New method", "siemens training", "20161121", "Datasets", and "Protocols". The "Acquisitions" folder is expanded, showing a list of acquisition protocols.

The central workspace displays a "Workflow tasks" dialog box. It contains a table with the following tasks:

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

Below the table, there is a "Dataset name" field with the value "20200803-U87MG-PDL1-60min". Buttons for "Add task", "Remove task", "Setup", and "Start Workflow" are visible. A "Close" button is at the bottom.

On the right, the "Scout view" panel shows a CT scan image and a histogram. The histogram is titled "Histogram" and shows a distribution of values. The x-axis is labeled "Value (X/Y): 0/0" and ranges from 0 to 4000. The y-axis ranges from 0 to 100. The histogram shows a peak around 1000. The saturation is 0.000%.

The bottom status panel provides real-time monitoring data:

- Acquisition Status:** Events (k): 15251, Progress: 100%, Elapsed time: 0:00:10:03, Remaining time: 0:00:00:00.
- Hardware:** Logger server (green), Scanner (green), Temperatures (green), Disk Space (red X), Bore tunnel (Absent).
- MM Gating (signals/min):** Port 1: 0.0, Port 2: 0.0, Port 3: 0.0.
- MM Motion:** Horz. bed: 0.02 mm, Vert. bed: 7.59 mm, Gantry: 0.00 °, Rear shield: Open, Installed pallet: SB 70mm.
- X-ray Source:** Position: 0.00 mm, Voltage: 0 kV, Current: 0 µA, Spot size: 50 µm, Interlocks (red X). A warning box states: "Please condition X-ray source. X-ray source is off".
- X-ray Detector:** Position: 0.00 mm, Mode: Rat.

The Windows taskbar at the bottom shows the Start button and several open applications: IAW Logger Server, IAW - PETCT_CTAC_..., Runtime App, LocalHost (F:\Predeli..., New Wordpad Docum..., and Inveon (F:). The system clock shows 4:25 PM.

2. Fill out the study information and click “OK”.

The screenshot displays the IAW PETCT software interface. The main window shows a list of user folders and a list of acquisitions. A 'Study Information' dialog box is open, allowing the user to enter study details. The dialog box contains a table with the following data:

Parameter Name	Value
injected_compound	PD-L1
subject_orientation *	FeetFirstProne
subject_weight	22
subject_weight_units	Grams

Below the table are 'Cancel' and 'OK' buttons. The background window shows a 'Workflow tasks' list and a 'Scout view' of a PET/CT scan. The status panel at the bottom provides real-time system information.

Workflow tasks:

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

Scout view:

CT

X / Y: 22 / 24

Value: 0.5

Max: 1.2

Min: -0.1

Histogram

Value (X/Y): 0/0

Saturation: 0.000%

Status panel:

Acquisition Status

Events (k): 15251

Progress: 100%

Elapsed time: 0:00:10:03

Remaining time: 0:00:00:00

Hardware:

Logger server: ☒

Scanner: ☒

Temperatures: ☒

Disk Space: ☒

Bore tunnel: Absent

MM Gating (signals/min):

Port	Signal (min)
Port 1	0.0
Port 2	0.0
Port 3	0.0

MM Motion:

Parameter	Value	Unit
Horz. bed	0.02	mm
Vert. bed	7.59	mm
Gantry	0.00	°
Rear shield	Open	
Installed pallet	SB 70mm	

X-ray Source:

Parameter	Value	Unit
Position	0.00	mm
Voltage	0	kV
Current	0	μA
Spot size	50	μm

Interlocks: ☒

X-ray Detector:

Parameter	Value	Unit
Position	0.00	mm
Mode	Rat	

Warning:

Please condition X-ray source

X-ray source is off

3. Acquire side view

IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw

File View Actions Help

User Folders

- CC
- New method
- siemens training
- 20161121
- Datasets
- Protocols
- Acquisitions
 - CTAC_1bed.pCatAcq
 - CTAC_2bed.pCatAcq
 - CTAC_2bed_S5um.pCatAcq
 - CTAC_3bed.pCatAcq
 - CT_acq_bin1_high_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_1bed_Fluoroscopy.pCatAcq
 - CT_acq_bin2_high_80kv_500uA_1bed_1Sum.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_2bed_1Sum.pCatAcq
 - CT_acq_bin2_medlow_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_3bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed-2.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_2bed.pCatAcq
 - PET_10min_F18.pPetAcq
 - PET_10min_G68.pPetAcq
 - PET_10min_Zr89.pPetAcq
 - PET_120min_G68.pPetAcq
 - PET_15min_F18.pPetAcq
 - PET_20min_F18.pPetAcq
 - PET_20min_G68.pPetAcq
 - PET_21min_F18.pPetAcq
 - PET_30min_F18.pPetAcq

Workflow tasks

Protocol File	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition

Scan Position Setup

Sync	Protocol Name	Length	Start	Center	End
☒	PET_60min_G68.pPetAcq	127	34.0	97.5	161.0
☒	CTAC_2bed.pCatAcq	95	50.0	97.5	145.0

Usage tips:

- Use the scout/pallet view or laser view, but not both together
- Bed values used for this dataset will be used as default values for the next dataset
- Use the laser view in shuttle position: 2
- Use the scout view in shuttle position: 3

Scout View

Scout length: 134 mm Pallet scale: 200 mm

Acquire Side View Acquire Top View

Cancel OK

Scout view

CT

X / Y: 22 / 24

Value: 0.5

Max: 1.2

Min: -0.1

Histogram

Value (X/Y): 0/0 Saturation: 0.000%

status panel

Acquisition Status

Events (k): 15251

Progress: 100%

Elapsed time: 0:00:10:03

Remaining time: 0:00:00:00

Hardware

- Logger server
- Scanner
- Temperatures
- Disk Space

Bore tunnel Absent

MM Gating (signals/min)

Port 1: 0.0

Port 2: 0.0

Port 3: 0.0

MM Motion

Horz. bed: 0.02 mm

Vert. bed: 7.59 mm

Gantry: 0.00 °

Rear shield: Open

Installed pallet: SB 70mm

X-ray Source

Position: 0.00 mm

Voltage: 0 kV

Current: 0 µA

Spot size: 50 µm

Interlocks: ☒

Please condition X-ray source

X-ray source is off

X-ray Detector

Position: 0.00 mm

Mode: Rat

Online Inveon MM

start IAW Logger Server IAW - PETCT_CTAC_... Runtime App Runtime App LocalHost (F:)Predini... New Wordpad Docum... Inveon (F:) 4:33 PM

4. Adjust the visual field position

IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw

File View Actions Help

User Folders

- CC
- New method
- siemens training
- 20161121
- Datasets
- Protocols
- Acquisitions
 - CTAC_1bed.pCatAcq
 - CTAC_2bed.pCatAcq
 - CTAC_2bed_5Sum.pCatAcq
 - CTAC_3bed.pCatAcq
 - CT_acq_bin1_high_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_1bed_Fluoroscopy.pCatAcq
 - CT_acq_bin2_high_80kv_500uA_1bed_15um.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_2bed_15um.pCatAcq
 - CT_acq_bin2_medlow_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_3bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed-2.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_2bed.pCatAcq
 - PET_10min_F18.pPetAcq
 - PET_10min_G68.pPetAcq
 - PET_10min_Zr89.pPetAcq
 - PET_120min_G68.pPetAcq
 - PET_15min_F18.pPetAcq
 - PET_20min_F18.pPetAcq
 - PET_20min_G68.pPetAcq
 - PET_21min_F18.pPetAcq
 - PET_30min_F18.pPetAcq

Workflow tasks

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition

Scan Position Setup

Sync	Protocol Name	Length	Start	Center	End
☒	PET_60min_G68.pPetAcq	127	48.0	111.5	175.0
☒	CTAC_2bed.pCatAcq	95	64.0	111.5	159.0

Usage tips:

- Use the scout/pallet view or laser view, but not both together
- Bed values used for this dataset will be used as default values for the next dataset
- Use the laser view in shuttle position: 2
- Use the scout view in shuttle position: 3

Scout View

Scout length: 134 mm Pallet scale: 200 mm

Acquire side view Acquire Top View

Cancel OK

Scout view

CT

X / Y: 3 / 23

Value: 0.0

Max: 1.2

Min: -0.1

Histogram

Value (X/Y): 0/0 Saturation: 0.000%

status panel

Acquisition Status

Progress: 100%

Elapsed time: 0:00:00:11

Projection: 1 of 1

Bed Number: 3

Hardware

- Logger server
- Scanner
- Temperatures
- Disk Space

Bore tunnel: Absent

MM Gating (signals/min)

Port	Value
Port 1	0.0
Port 2	0.0
Port 3	0.0

MM Motion

Parameter	Value	Unit
Horz. bed	77.57	mm
Vert. bed	12.60	mm
Gantry	0.00	°
Rear shield	Closed	
Installed pallet	SB 70mm	

X-ray Source

Parameter	Value	Unit
Position	0.00	mm
Voltage	80	kV
Current	500	µA
Spot size	50	µm

Interlocks: ☒

X-ray Detector

Parameter	Value	Unit
Position	0.00	mm
Mode	Rat	

Online Inveon MM

start IAW Logger Server IAW - PETCT_CTAC_... Runtime App Runtime App LocalHost (F:)Preclini... New Wordpad Docum... Inveon (F:) 4:48 PM

5. Acquire top view and click “OK”

IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw

File View Actions Help

User Folders

- CC
- New method
- siemens training
- 20161121
 - Datasets
 - Protocols
 - Acquisitions
 - CTAC_1bed.pCatAcq
 - CTAC_2bed.pCatAcq
 - CTAC_2bed_55um.pCatAcq
 - CTAC_3bed.pCatAcq
 - CT_acq_bin1_high_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_1bed_Fluoroscopy.pCatAcq
 - CT_acq_bin2_high_80kv_500uA_1bed_15um.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_2bed_15um.pCatAcq
 - CT_acq_bin2_medlow_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_3bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed-2.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_2bed.pCatAcq
 - PET_10min_F18.pPetAcq
 - PET_10min_G68.pPetAcq
 - PET_10min_Zr89.pPetAcq
 - PET_120min_G68.pPetAcq
 - PET_15min_F18.pPetAcq
 - PET_20min_F18.pPetAcq
 - PET_20min_G68.pPetAcq
 - PET_21min_F18.pPetAcq
 - PET_30min_F18.pPetAcq

Workflow tasks

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition

Scan Position Setup

Sync	Protocol Name	Length	Start	Center	End
☒	1 PET_60min_G68.pPetAcq	127	48.0	111.5	175.0
☒	2 CTAC_2bed.pCatAcq	95	64.0	111.5	159.0

Usage tips:

- Use the scout/pallet view or laser view, but not both together
- Bed values used for this dataset will be used as default values for the next dataset
- Use the laser view in shuttle position: 2
- Use the scout view in shuttle position: 3

Scout View

Scout length: 134 mm Pallet scale: 200 mm

Acquire side view Acquire top view

Cancel OK

Scout view

CT

X / Y: 3 / 23

Value: 0.0

Max: 1.2

Min: -0.1

Histogram

Value (X/Y): 0/0 Saturation: 0.000%

status panel

Acquisition Status

Progress: 100%

Elapsed time: 0:00:00:11

Projection: 1 of 1

Bed Number: 3

Hardware

- Logger server
- Scanner
- Temperatures
- Disk Space

Bore tunnel Absent

MM Gating (signals/min)

Port	Value
Port 1	0.0
Port 2	0.0
Port 3	0.0

MM Motion

Parameter	Value	Unit
Horz. bed	81.57	mm
Vert. bed	38.64	mm
Gantry	90.00	°
Rear shield	Closed	
Installed pallet	SB 70mm	

X-ray Source

Parameter	Value	Unit
Position	0.00	mm
Voltage	80	kV
Current	500	µA
Spot size	50	µm

Interlocks

X-ray Detector

Parameter	Value	Unit
Position	0.00	mm
Mode	Rat	

Online Inveon MM

start IAW Logger Server IAW - PETCT_CTAC_... Runtime App Runtime App LocalHost (F:\Predi... New Wordpad Docum... Inveon (F:) 4:49 PM

6. Make sure the pallet position and click “OK”

The screenshot displays the IAW PETCT software interface. The main window is titled "IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw". A "Scan Position Setup" dialog box is open, showing a table of workflow tasks and a "Scout View" image. An error message box titled "IAW_CInt" is displayed over the dialog, stating: "Please make sure that pallet (5B70) is at position: 3".

Workflow tasks table:

Sync	Protocol Name	Length	Start	Center	End
☒	PET_60min_G68.pPetAcq	127	48.0	111.5	175.0
☒	CTAC_2bed.pCatAcq	95	64.0	111.5	159.0

Usage tips:

- Use the scout/pallet view or laser view, but not both together
- Bed values used for this dataset will be used as default values for the next dataset
- Use the laser view in shuttle position: 2
- Use the scout view in shuttle position: 3

Scout View parameters:

- Scout length: 134 mm
- Pallet scale: 200 mm
- Buttons: Acquire side view, Acquire top view, Cancel, OK

Scout view window:

- CT: X/Y 3/23, Value 0.0
- Max: 1.2, Min: -0.1
- Histogram: Value (X/Y): 0/0, Saturation: 0.000%

Status panel:

- Acquisition Status: Progress 100%, Elapsed time 0:00:00:11, Projection 1 of 1, Bed Number 3
- Hardware: Logger server, Scanner, Temperatures, Disk Space (absent), Bore tunnel (absent)
- MM Gating (signals/min): Port 1 0.0, Port 2 0.0, Port 3 0.0
- MM Motion: Horz. bed 81.57 mm, Vert. bed 38.64 mm, Gantry 90.00 °, Rear shield Closed, Installed pallet SB 70mm
- X-ray Source: Position 0.00 mm, Voltage 80 kV, Current 500 µA, Spot size 50 µm, Interlocks (green dot)
- X-ray Detector: Position 0.00 mm, Mode Rat

7. Define acquisiting settings and click “OK”

The screenshot displays the IAW PETCT software interface. The main window shows a workflow task list with the following tasks:

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

The 'Define acquisition settings' dialog box is open, showing the file path: `ts\20200803-U87MG-PDL1-60min\20200803-U87MG-PDL1-60min_PET_60min_G68_v1.lst`. The dialog includes checkboxes for 'Extend bed for injection (pre-acquisition)' and 'Display interactive user prompts', both of which are currently unchecked. The 'Setup' button is highlighted.

The 'Scout view' panel on the right shows a CT scan image and a histogram. The histogram is titled 'Histogram' and shows 'Value (X/Y): 0/0' and 'Saturation: 0.000%'. The x-axis ranges from 0 to 4000, and the y-axis ranges from 0 to 100.

The 'status panel' at the bottom provides real-time monitoring data:

- Acquisition Status:** Progress: 100%, Elapsed time: 0:00:00:11, Projection: 1 of 1, Bed Number: 3.
- Hardware:** Logger server (green), Scanner (green), Temperatures (green), Disk Space (red), Bore tunnel (Absent).
- MM Gating (signals/min):** Port 1: 0.0, Port 2: 0.0, Port 3: 0.0.
- MM Motion:** Horiz. bed: 81.57 mm, Vert. bed: 38.64 mm, Gantry: 90.00 °, Rear shield: Closed, Installed pallet: SB 70mm.
- X-ray Source:** Position: 0.00 mm, Voltage: 80 kV, Current: 500 µA, Spot size: 50 µm, Interlocks (green).
- X-ray Detector:** Position: 0.00 mm, Mode: Rat.

The bottom status bar shows the system is 'Online' and 'Inveon MM'.

8. Define acquisiting settings and click “OK”

The screenshot displays the IAW PETCT software interface. The main window shows a list of workflow tasks on the left and a central area for defining acquisition settings. A dialog box titled "Define acquisition settings" is open, allowing the user to specify the acquisition output file, CT normalization file, and center offset file. The status panel at the bottom provides real-time monitoring of the system, including hardware status, MM gating, motion parameters, and X-ray source/detector settings.

Workflow tasks:

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

Define acquisition settings dialog:

- Acquisition output file: sets\20200803-U87MG-PDL1-60min\20200803-U87MG-PDL1-60min_YAT_CTAC_2bed_v1.cat
- CT normalization file: ets\DarkLight\B4_T3072_A2048_V80_C500_E200_F0_0_Sum_1.ct.nrm
- Center offset file: veon\System Folders\CT\Datasets\CenterOffset\B4_T3072_A2048_V80_C500.ct.cos

Status panel:

- Acquisition Status:** Progress: 100%, Elapsed time: 0:00:00:11, Projection: 1 of 1, Bed Number: 3
- Hardware:** Logger server, Scanner, Temperatures, Disk Space, Bore tunnel: Absent
- MM Gating (signals/min):** Port 1: 0.0, Port 2: 0.0, Port 3: 0.0
- MM Motion:** Horz. bed: 81.57 mm, Vert. bed: 38.64 mm, Gantry: 90.00 °, Rear shield: Closed, Installed pallet: SB 70mm
- X-ray Source:** Position: 0.00 mm, Voltage: 80 kV, Current: 500 µA, Spot size: 50 µm, Interlocks: On
- X-ray Detector:** Position: 0.00 mm, Mode: Rat

10. Define histogram input and output and click “OK”

The screenshot displays the IAW PETCT software interface. The main window shows a workflow task list with the following tasks:

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

The 'Define Histogram input and output' dialog box is open, showing the following fields:

- Input Listmode File: L1-60min\20200803-U87MG-PDL1-60min_PET_PET_60min_G68_v1.lst
- Output Sinogram File: L1-60min\20200803-U87MG-PDL1-60min_PET_PET_60min_G68_v1.scn
- Input Gating File: (empty)
- Input Blank File: (empty)
- Generate Efficiency File: ☐
- View Output Sinogram File Upon Completion: ☐
- Select microQ Platform: LocalHost

The 'Scout view' window shows a CT scan image with the following parameters:

Parameter	Value
X / Y	3 / 23
Value	0.0
Max	1.2
Min	-0.1

The 'Histogram' window shows a histogram plot with the following parameters:

Parameter	Value
Value (X/Y): 0/0	0.0000%
Saturation	0.0000%

The 'status panel' at the bottom shows the following information:

- Acquisition Status: Progress: 100%, Elapsed time: 0:00:00:11, Projection: 1 of 1, Bed Number: 3
- Hardware: Logger server, Scanner, Temperatures, Disk Space, Bore tunnel: Absent
- MM Gating (signals/min): Port 1: 0.0, Port 2: 0.0, Port 3: 0.0
- MM Motion: Horz. bed: 81.57 mm, Vert. bed: 38.64 mm, Gantry: 90.00°, Rear shield: Closed, Installed pallet: SB 70mm
- X-ray Source: Position: 0.00 mm, Voltage: 80 kV, Current: 500 µA, Spot size: 50 µm, Interlocks: ☒
- X-ray Detector: Position: 0.00 mm, Mode: Rat

11. Define reconstruction input and output and click “OK”

IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw

File View Actions Help

User Folders

- CC
- New method
- siemens training
- 20161121
- Datasets
- Protocols
- Acquisitions
 - CTAC_1bed.pCatAcq
 - CTAC_2bed.pCatAcq
 - CTAC_2bed_55um.pCatAcq
 - CTAC_3bed.pCatAcq
 - CT_acq_bin1_high_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_1bed_Fluoroscopy.pCatAcq
 - CT_acq_bin2_high_80kv_500uA_1bed_15um.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_medlow_80kv_500uA_2bed_15um.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_3bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed-2.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_2bed.pCatAcq
 - PET_10min_F18.pPetAcq
 - PET_10min_G68.pPetAcq
 - PET_10min_Zr89.pPetAcq
 - PET_12min_G68.pPetAcq
 - PET_15min_F18.pPetAcq
 - PET_20min_F18.pPetAcq
 - PET_20min_G68.pPetAcq
 - PET_21min_F18.pPetAcq
 - PET_30min_F18.pPetAcq

Workflow tasks

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

Define Reconstruction input and output

Sinogram input file: 50min\20200803-U87MG-PDL1-60min_PET_PET_60min_G68_v1.scr Browse...

Image output file: in\20200803-U87MG-PDL1-60min_PET_PET_60min_G68_v1.pet.img Browse...

Normalization input file: _default\20161123105926_norm_default_PNM_PET_Norm_v1.nrm Browse...

Attenuation input file: L1-60min\20200803-U87MG-PDL1-60min_XAT_CTAC_2bed_v1.atn Browse...

Blank file: Browse...

Scatter file: Browse...

☐ Segment the attenuation file

☐ View Image output file Upon Completion

Select microQ platform: LocalHost

Cancel OK

Scout view

CT

X / Y: 3 / 23

Value: 0.0

Max: 1.2

Min: -0.1

Histogram

Value (X/Y): 0/0 Saturation: 0.000%

100 80 60 40 20 0

0 1000 2000 3000 4000

status panel

Acquisition Status

Progress: 100%

Elapsed time: 0:00:00:11

Projection: 1 of 1

Bed Number: 3

Hardware

- Logger server
- Scanner
- Temperatures
- Disk Space

Bore tunnel: Absent

MM Gating (signals/min)

Port 1: 0.0

Port 2: 0.0

Port 3: 0.0

MM Motion

Horz. bed: 81.57 mm

Vert. bed: 38.64 mm

Gantry: 90.00 °

Rear shield: Closed

Installed pallet: SB 70mm

X-ray Source

Position: 0.00 mm

Voltage: 80 kV

Current: 500 µA

Spot size: 50 µm

Interlocks: ☒

X-ray Detector

Position: 0.00 mm

Mode: Rat

start

IAW Logger Server

IAW - PETCT_CTAC_...

Runtime App

Runtime App

LocalHost (F:\)Preclin...

New Wordpad Docum...

Inveon (F:)

Online

Inveon MM

4:53 PM

12. Complete all settings and click “Start Workflow”

IAW - PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw

File View Actions Help

CT PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw Motion Control

User Folders

- CC
- New method
- siemens training
- 20161121
- Datasets
- Protocols
- Acquisitions
 - CTAC_1bed.pCatAcq
 - CTAC_2bed.pCatAcq
 - CTAC_2bed_55um.pCatAcq
 - CTAC_3bed.pCatAcq
 - CT_acq_bin1_high_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_1bed_fluoroscopy.pCatAcq
 - CT_acq_bin2_high_80kv_500uA_1bed_15um.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_medhigh_80kv_500uA_2bed_15um.pCatAcq
 - CT_acq_bin2_medlow_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_39um.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_1bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_2bed_NONE.pCatAcq
 - CT_acq_bin2_med_80kv_500uA_3bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed-2.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_1bed.pCatAcq
 - CT_acq_bin4_low_80kv_500uA_2bed.pCatAcq
 - PET_10min_F18.pPetAcq
 - PET_10min_G68.pPetAcq
 - PET_10min_Z89.pPetAcq
 - PET_120min_G68.pPetAcq
 - PET_15min_F18.pPetAcq
 - PET_20min_F18.pPetAcq
 - PET_20min_G68.pPetAcq
 - PET_21min_F18.pPetAcq
 - PET_30min_F18.pPetAcq

Workflow tasks

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

Add task Remove task

Dataset name

20200803-U87MG-PDL1-60min

Setup Start Workflow

Workflow setup complete

Close

Scout view

CT

X / Y
3 / 23

Value
0.0

Max
1.2

Min
-0.1

Histogram

Value (X/Y): 0/0 Saturation: 0.000%

100
80
60
40
20
0

0 1000 2000 3000 4000

status panel

Acquisition Status

Progress: 100%

Elapsed time: 0:00:00:11

Projection: 1 of 1

Bed Number: 3

Hardware

- Logger server
- Scanner
- Temperatures
- Disk Space

Bore tunnel Absent

MM Gating (signals/min)

Port	Value
Port 1	0.0
Port 2	0.0
Port 3	0.0

MM Motion

Parameter	Value	Unit
Horz. bed	81.57	mm
Vert. bed	38.64	mm
Gantry	90.00	°
Rear shield	Closed	
Installed pallet	SB 70mm	

X-ray Source

Parameter	Value	Unit
Position	0.00	mm
Voltage	80	kV
Current	500	µA
Spot size	50	µm

Interlocks

X-ray Detector

Parameter	Value	Unit
Position	0.00	mm
Mode	Rat	

start

IAW Logger Server

IAW - PETCT_CTAC_...

Runtime App

Runtime App

LocalHost (F:\Predcli...

New Wordpad Docum...

Inveon (F:)

Online Inveon MM

4:54 PM

13. Then the workflow will run according to predefined instruction

The screenshot displays the IAW PETCT software interface. The main window is titled "PETCT_CTAC_2bed_PET_G68_60min_dynamic_OSEM3D-2.WrkFlw". It features a "Workflow tasks" window in the center, a "Scout view" on the right, and a "status panel" at the bottom.

Workflow tasks window: This window lists the tasks for the current workflow. The tasks are:

Protocol file	Task description
PET_60min_G68.pPetAcq	(PET) Acquisition
CTAC_2bed.pCatAcq	(CT) Acquisition
PET_Histogram_60min_dynamic.pPetHst	(PET) Histogram
PET_Recon_OSEM3D_SP.pPetRcn	(PET) Reconstruction

Below the task list, there is a "Dataset name" field containing "20200803-U87MG-PDL1-60min". Buttons for "Add task", "Remove task", "Setup", and "Stop Workflow" are visible. A "Workflow in progress..." indicator is also present.

Scout view: This panel shows a CT scan image of a rat. The "Value (X/Y)" is 3 / 23, and the "Value" is 0.0. The "Max" value is 1.2, and the "Min" value is -0.1. A histogram is displayed below the image, showing the distribution of values. The histogram title is "Histogram" and the x-axis is labeled "Value (X/Y): 0/0". The y-axis is labeled "Saturation: 0.000%".

Status panel: This panel provides real-time monitoring of the acquisition. It includes sections for "Acquisition Status", "Hardware", "MM Gating (signals/min)", "MM Motion", "X-ray Source", and "X-ray Detector".

Acquisition Status:

- Events (k): 196
- Progress: 1%
- Elapsed time: 0:00:00:40
- Remaining time: 0:00:59:20

Hardware:

- Logger server: ☒
- Scanner: ☒
- Temperatures: ☒
- Disk Space: ☒
- Bore tunnel: Absent

MM Gating (signals/min):

Port	Signal (min)
Port 1	0.0
Port 2	0.0
Port 3	0.0

MM Motion:

Parameter	Value	Unit
Horz. bed	586.31	mm
Vert. bed	38.64	mm
Gantry	90.00	°
Rear shield	Open	
Installed pallet	SB 70mm	

X-ray Source:

Parameter	Value	Unit
Position	0.00	mm
Voltage	0	kV
Current	0	μA
Spot size	50	μm

X-ray Detector:

Parameter	Value	Unit
Position	0.00	mm
Mode	Rat	

Interlocks: A red "X" icon indicates that the interlocks are active.

Warning: A yellow box with a red "X" icon contains the text "Please condition X-ray source" and "X-ray source is off".

The bottom status bar shows the Windows taskbar with the Start button, several open applications (IAW Logger Server, IAW - PETCT_CTAC..., Runtime App, LocalHost (F:\Preclini..., New Wordpad Docum..., Inveon (F:)), and the system clock (4:56 PM).