DiagBox on GTS

DIAGBOX

TOYOTA

ALWAYS A BETTER WAY

ProAce 〉After Sales implementation

- Diagnostic tool
- Repair Manual
- Electric Wiring Diagrams

ProAce ⟩ After Sales implementation

What: For ProAce project TME has decided the adoption of PSA technical documentation and diagnostic tester.

When&How: From 18 June 2016 our Toyota technicians will have the possibility to download and install Diagbox software on their Toyota TD3 PCs.

Important:

1. Based on the commercial agreement, Toyota has now the possibility to register **3000 Diagbox users** insuring the presence of at least one PC in every dealer capable of diagnostic on ProAce.
2. Out of the 3000 users, at any given moment, PSA allows only **300 users** to be activated and to use concurrentely Diagox for diagnostic and configuration.

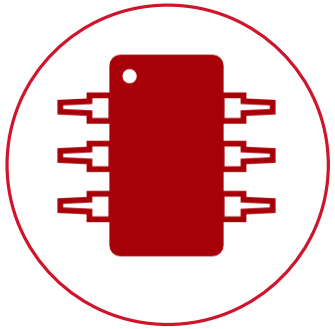
ProAce › After Sales implementation < Details>

What was adopted from PSA:

RM

Available on

TD3



EWD

PSA Server

OM

3.000 registred users

300 active users

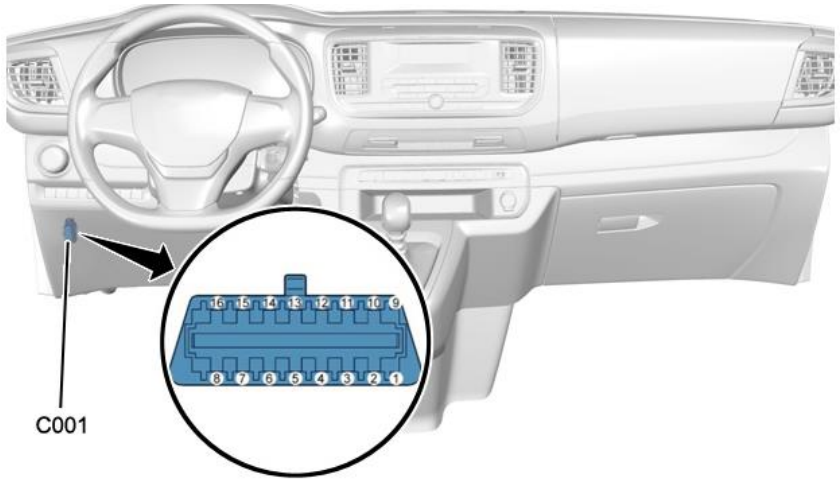
Must have equipment

Vehicle Interface Module with 2 CAN channels:

- MongoosePro Toyota 2 Bluetooth (Pro MFC2 BT RC2)

  Or

- Mongoose TS2+



Pin 6: IS CAN High
Pin 14: IS CAN Low
ECU Reflash

Pin 7: K line

Pin 3: PSA CAN Diag High (BSI1)
Pin 8: PSA CAN Diag Low(BSI1)
Diag+ ECU Reflash via BSI

As PSA uses different DLC3 pins, the usage of a dual CAN vehicule interface is **mandatory**

Diagbox implementation-> PC and OS specifications

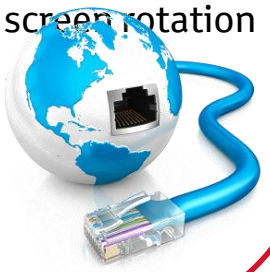
OS: **Windows 7 on 32bit** (PSA official OS)

Windows 7 on 64bits is not officially supported by PSA but TME has requested PSA to insure compatibility.
Current status:
OK for K0
OK for G9 but sometimes VIN is not automatically read. Input manually the VIN and diagnostic is possible.

Windows 10: Not supported within 2016. Later support TBC.

PC specifications

Proccessor: min frequency of 1.9 GHz, recommended I5
RAM: minimum 4Gb
HDD: minimum 11 Gb free for Diagbox suite
Screen resolution: minimum 1024x768 (VGA), screen rotation disabled
Internet Explorer: 8, 9, 10 or 11
Mandatory:
Internet connection (without Proxy)
Run under PC admin account



How to obtain Diagbox software:

Following 18 June 2016, TME will make available a download link fro Diagbox in GTSM (TD3 Software)

TME GTS Software Management

Role: Toyota Admin

Download

File download

Download Section

File Type ... Language English

Main File

15 items found, displaying 11 to 15.[First/Prev] 1, 2 [Next/Last]

File Name	File Type	File Version	File Description
GTS INSTALLER	GTS	9.30.002	
GTS 9.30.029 TEST	GTS	9.30.029	test
GTS FOR TD3 PC	GTS FOR TD3 PC	10.00.028	
GTS 10.30.025	GTS FOR TD3 PC	10.30.025	Generic GTS. Reboot required a...
PSA Diagbox V72.92	PSA	72.92	PSA Diagbox V72.92

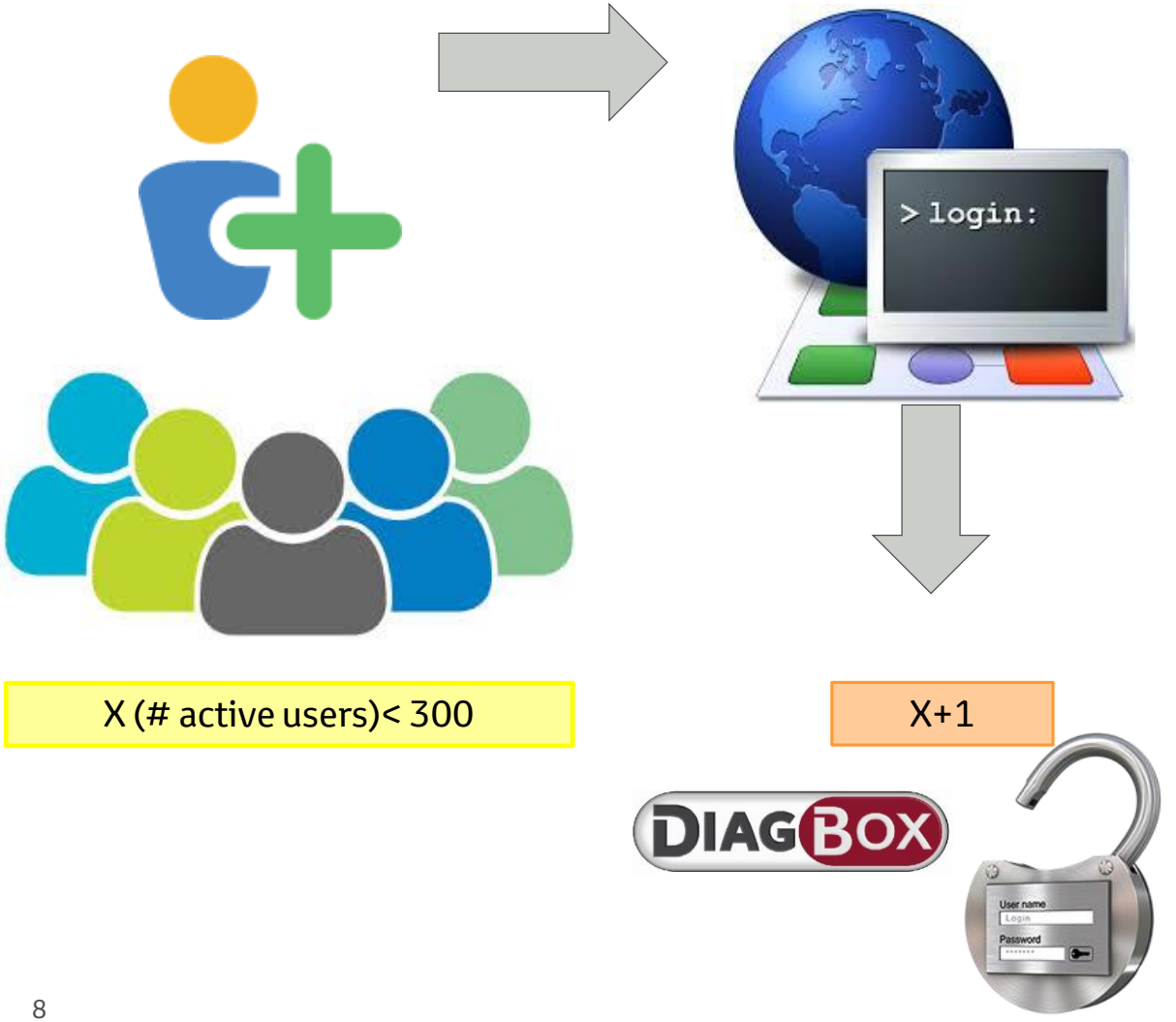
Related Files

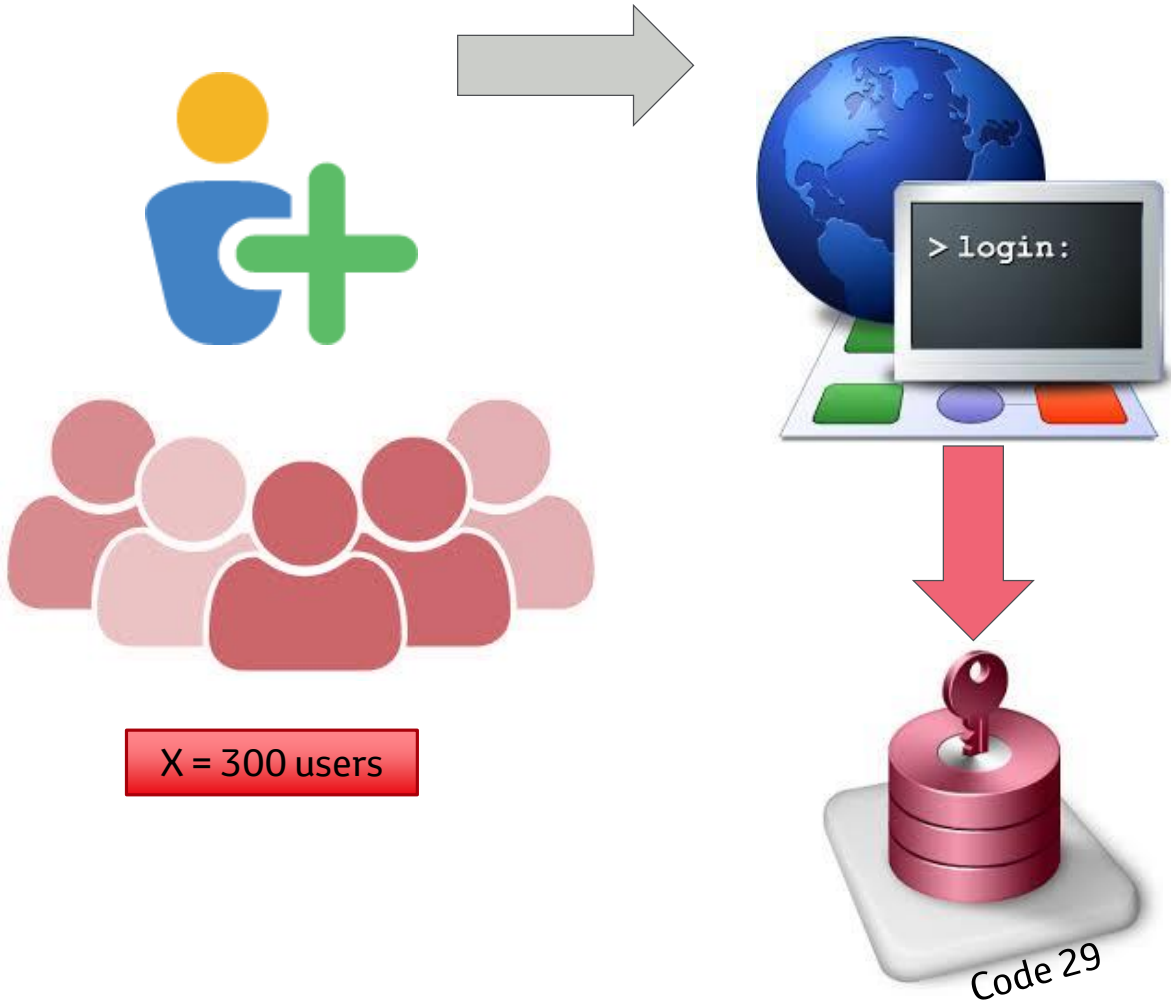
Nothing found to display.

1.3 Gb file size

Activation and de-activation: mandatory steps

For using **Diagbox** users must activate it. But if total number of active user is reached, additional requests are not accepte (code29).
Important: If you do not want to use the Diagbox software within the hour, please de-activate your session!!!





DiagBox activation step by step

Startup screen with disabled DiagBox

Fulfill your client code

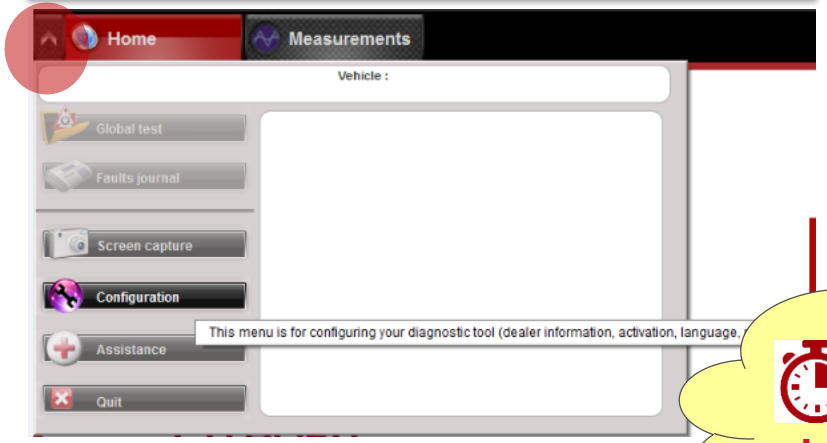
Time to complete :
About 10s

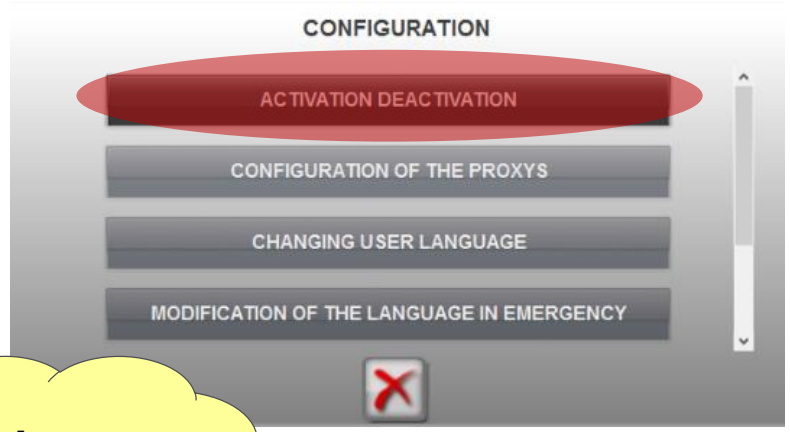
Internet access mandatory

DiagBox activation step by step

Reminder : If you do not want to use the Diagbox software within the hour, please de-activate your session!!!

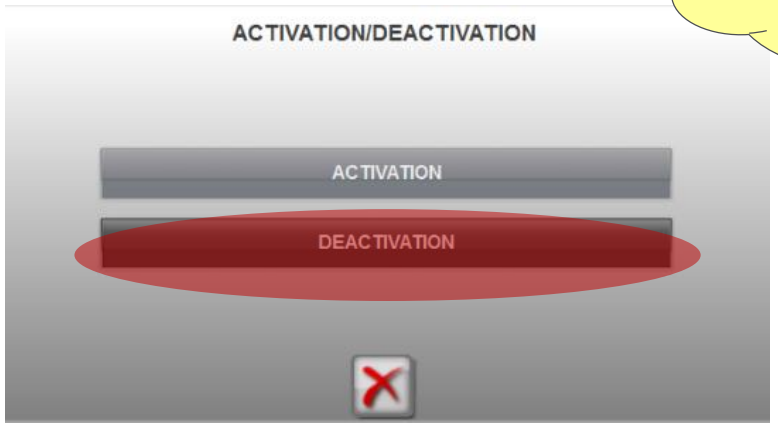
Configuration menu only available when there is no vehicle selected

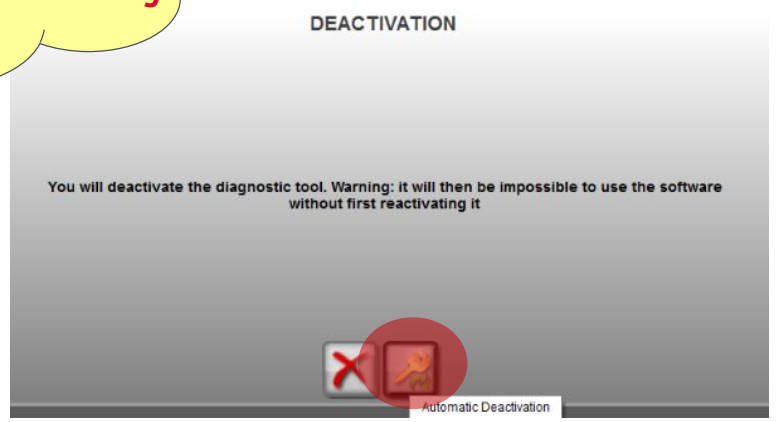




Time to complete :
About 15s

Internet access mandatory





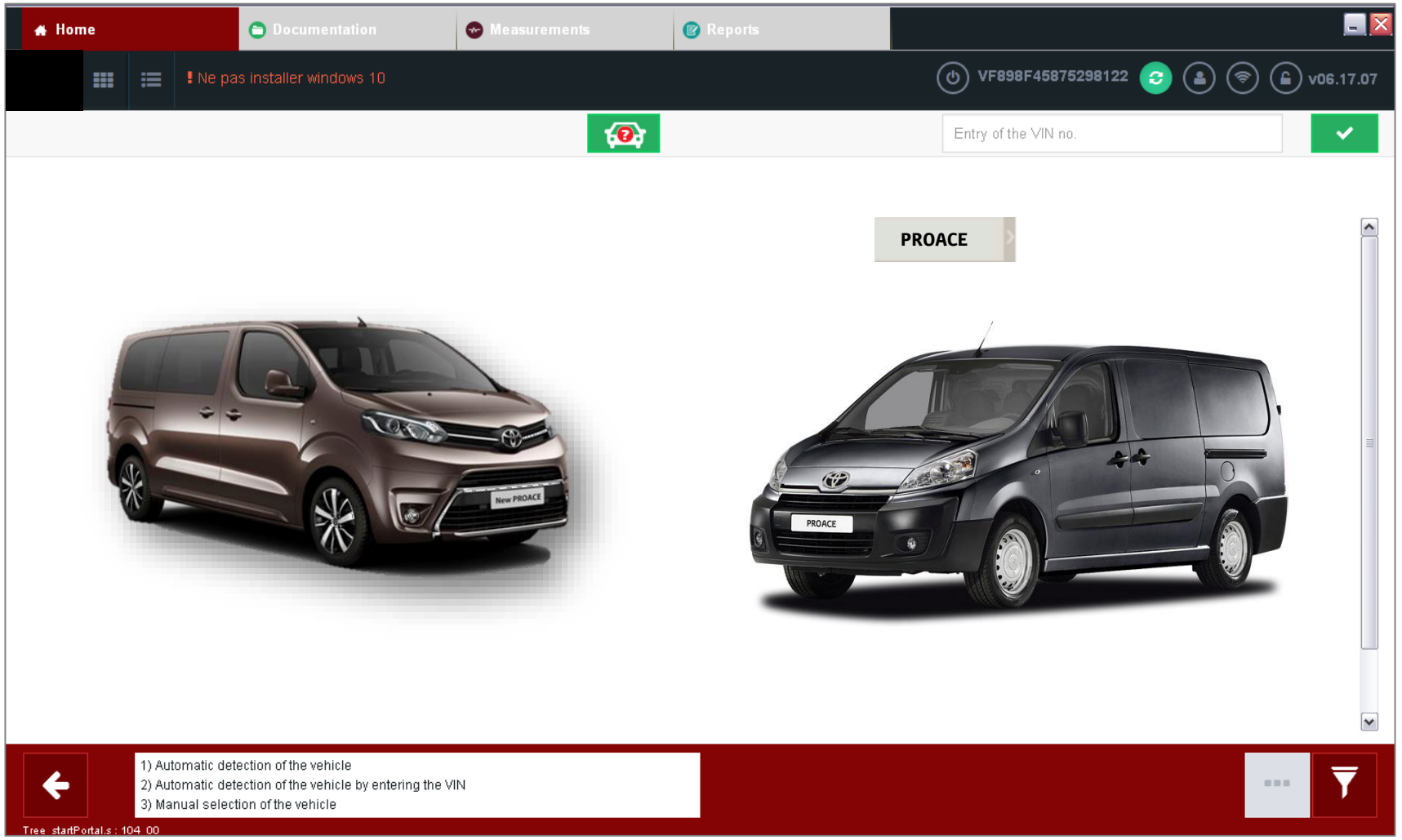
➔ License is released on server side and can be used by another user for diagnostic

X-1

Toolbar

Opening Screen

- Communication with Vehicle

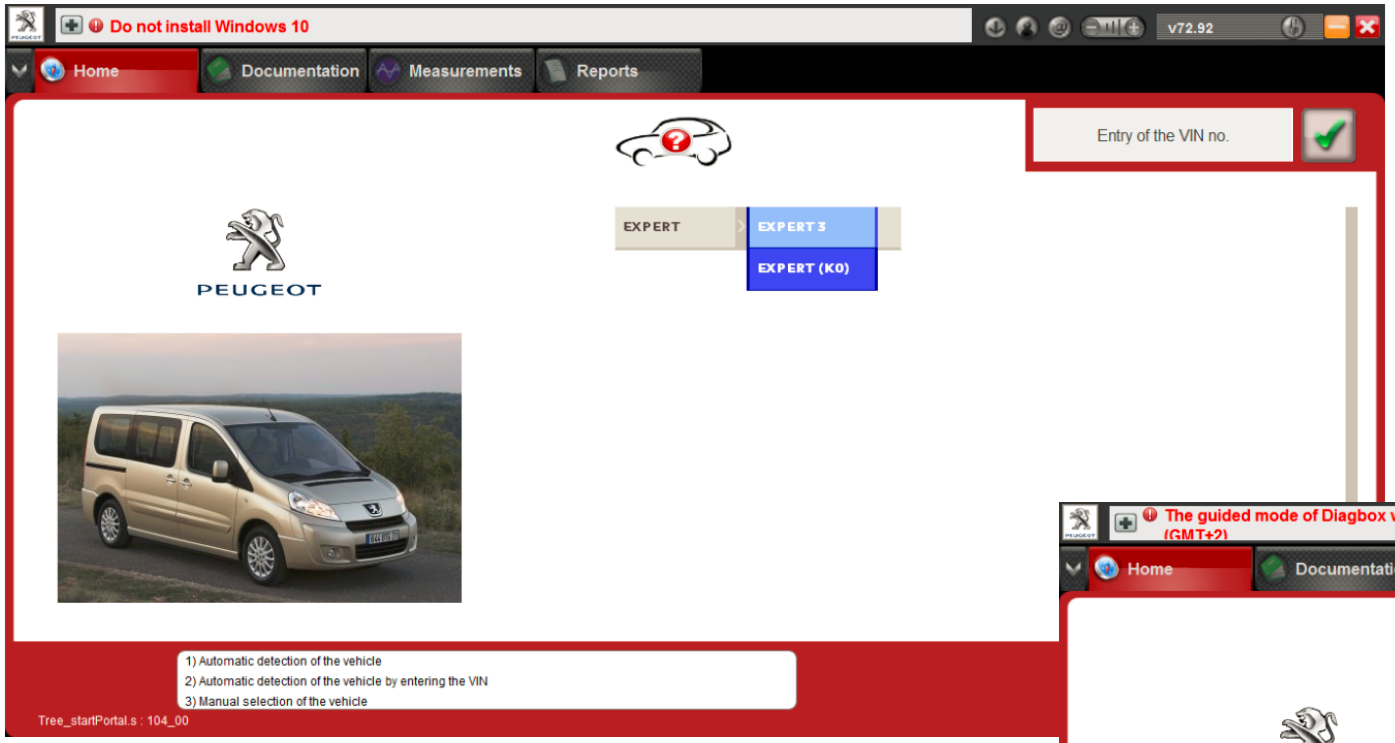


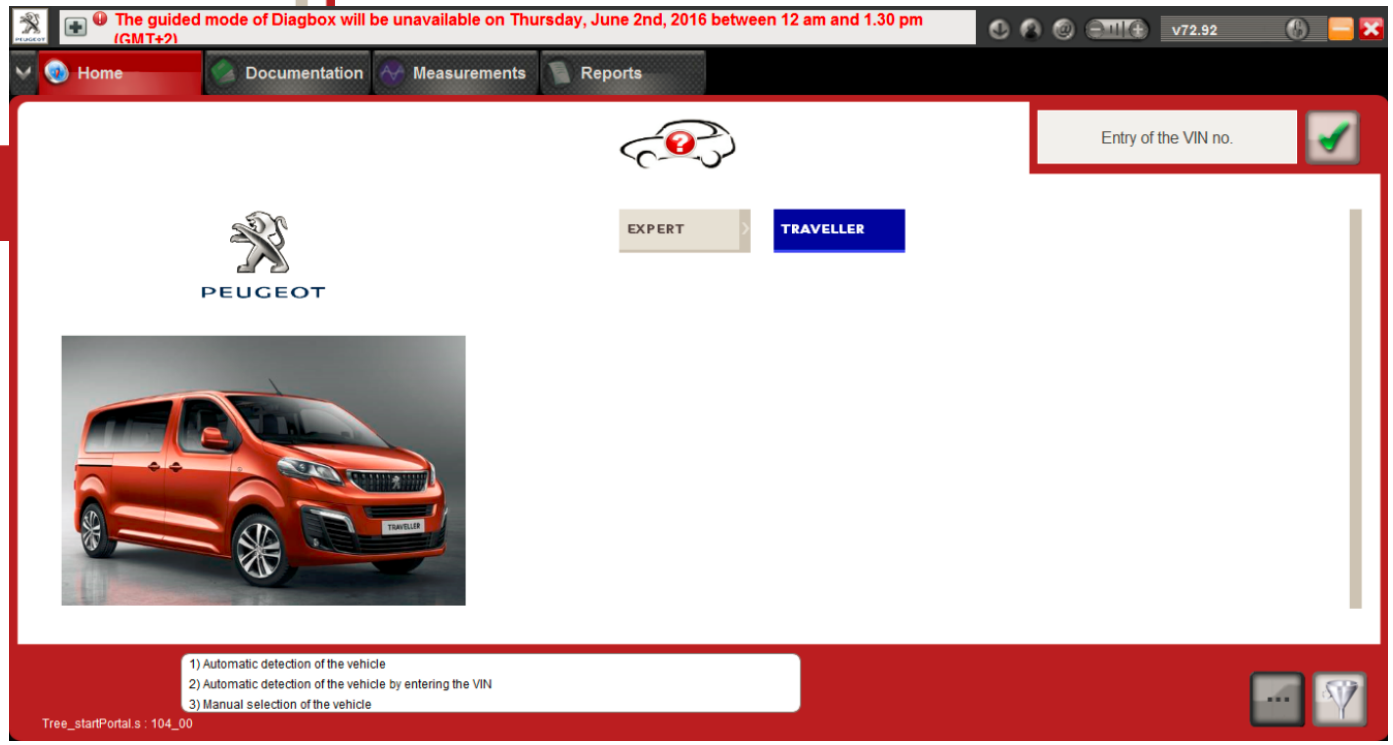
Warning

Due to time limitations for 18 June start the Diagbox version made available could not be customised for Toyota. Therefore, technicians will encounter PSA specific naming and links.

For diagnostic on current generation Proace technicians will select **Expert 3**
For diagnostic on next generation ProAce technicians will select **K0** or **Traveller.**

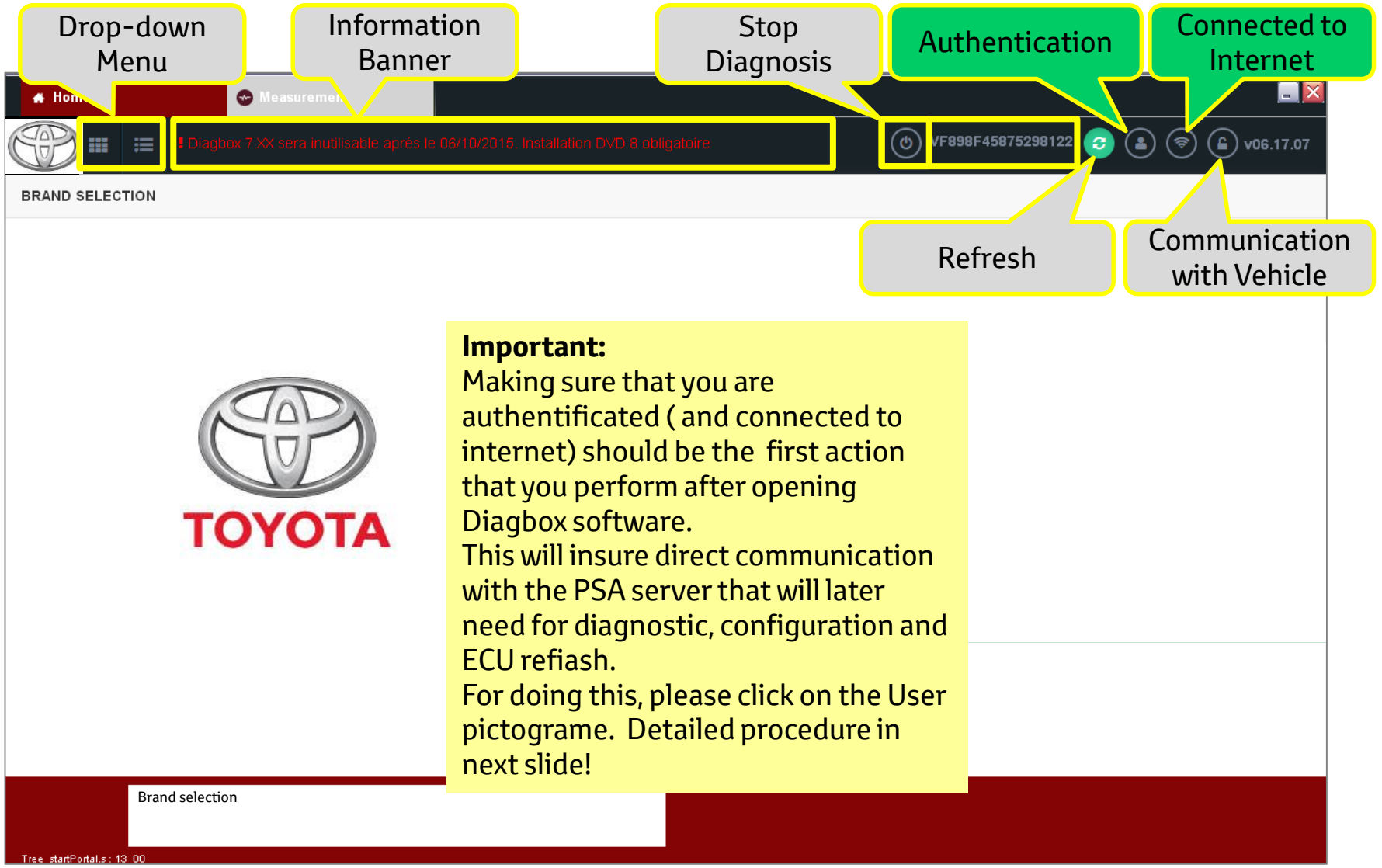
Current view of start page:





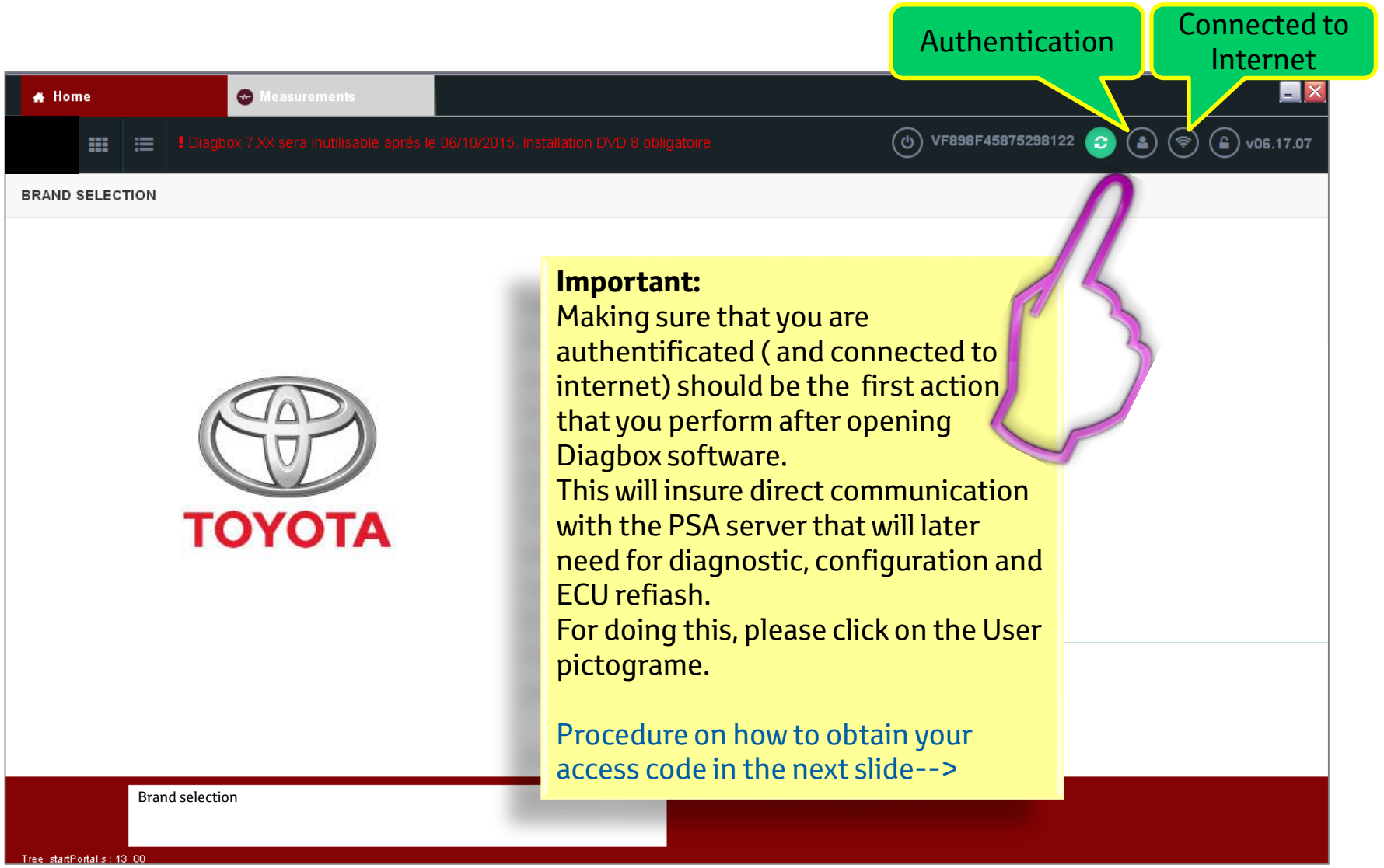
Toolbar

Home Page



Important:
Making sure that you are authentificated (and connected to internet) should be the first action that you perform after opening Diagbox software.
This will insure direct communication with the PSA server that will later need for diagnostic, configuration and ECU refiash.
For doing this, please click on the User pictograme. Detailed procedure in next slide!

Confirmation of Internet connection and user registration



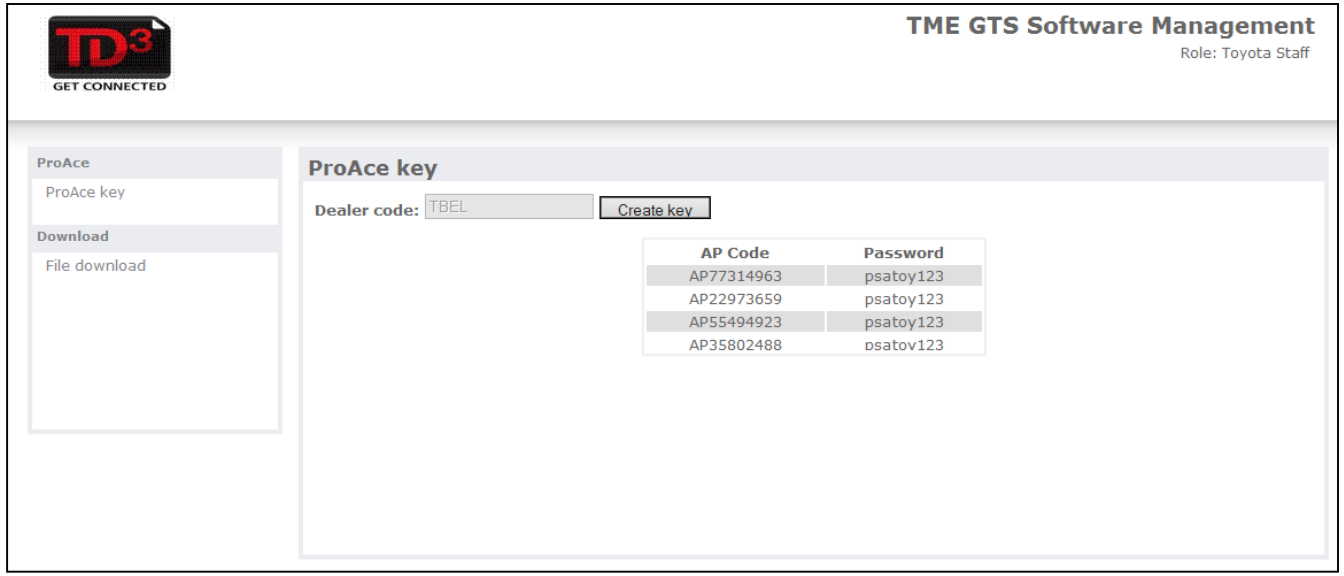
How to obtain you personal access code:

For obtaining you AP code you go on:

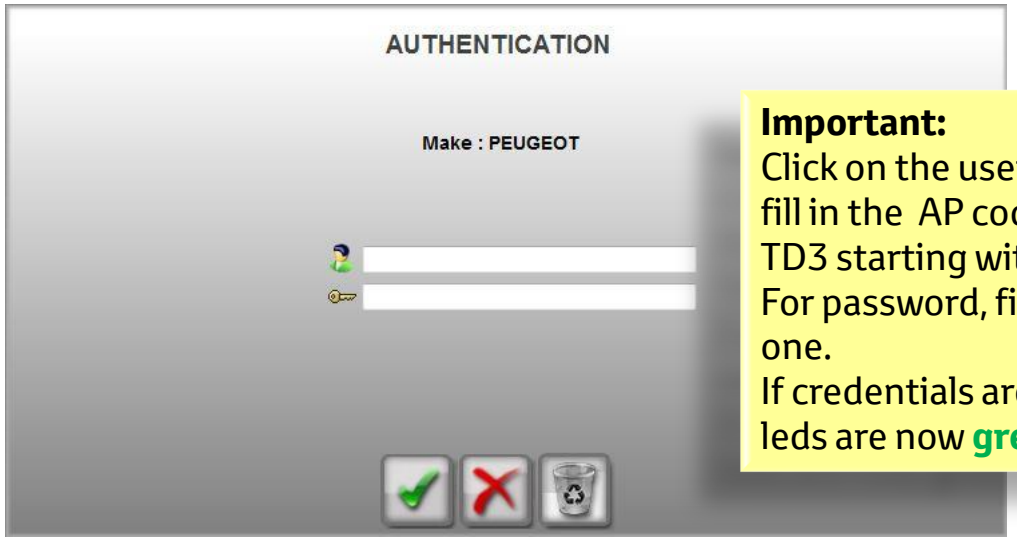
TD3-> GTS Software-> ProAce Key

Dealer must fill in his **Dealer Code** (last digits of his TD3 account) and click **Create Key**

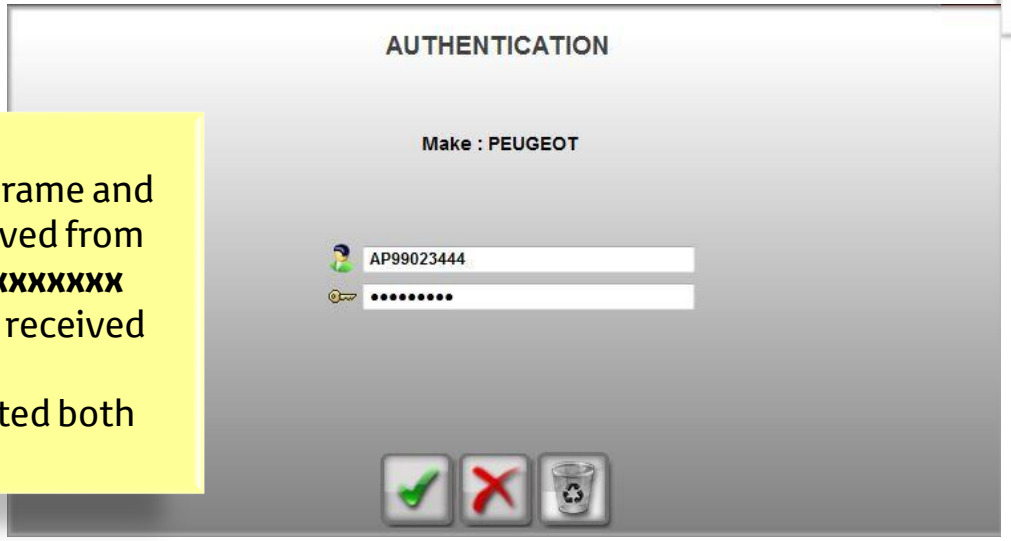
The AP code and PW generated will be used for registering in the Diagbox menu



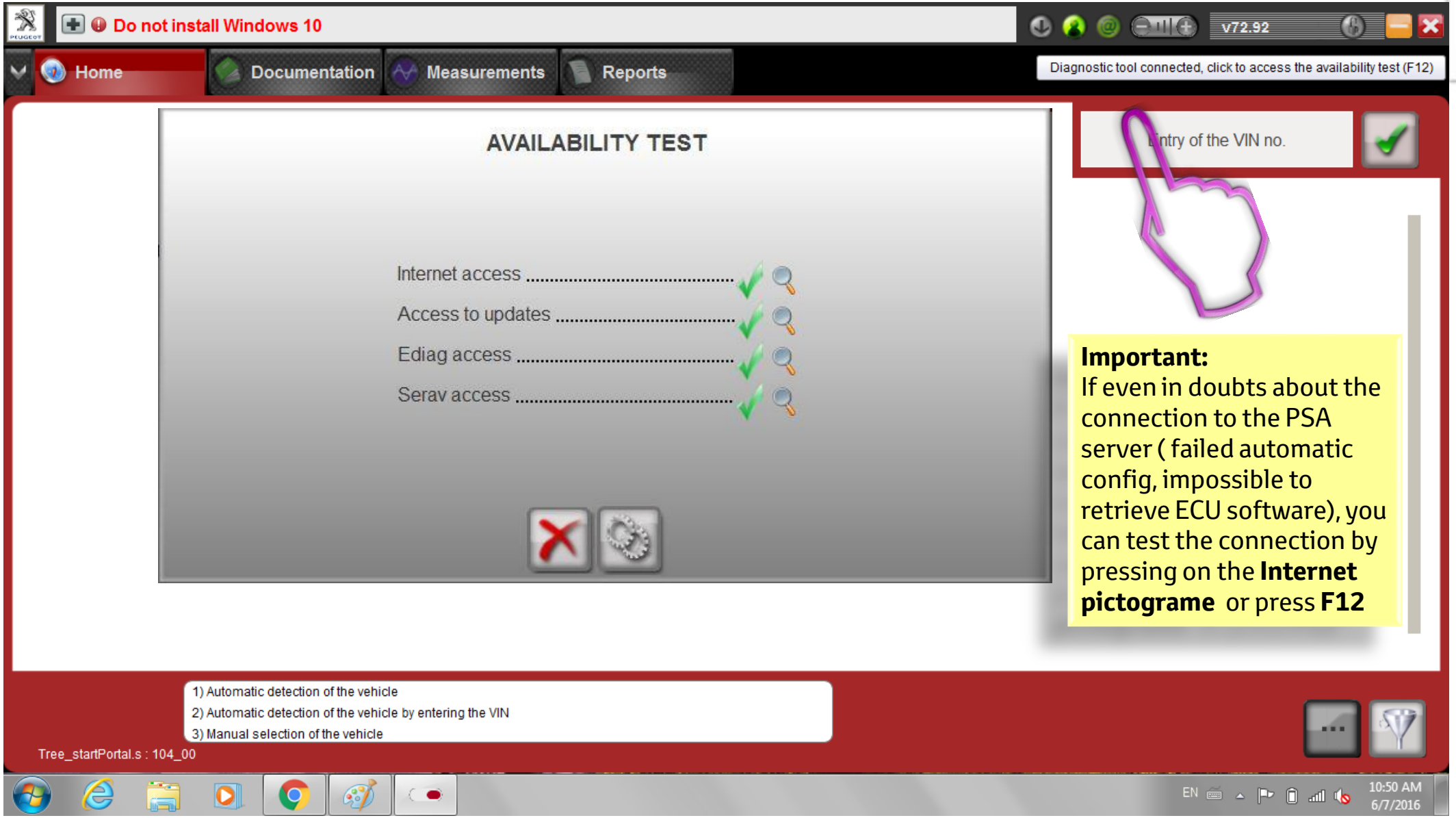
Confirmation of Internet connection and user registration



Important:
Click on the user pictograme and fill in the AP code received from TD3 starting with **Apxxxxxxxx**
For password, fill in the received one.
If credentials are accepted both leds are now **greeen**.



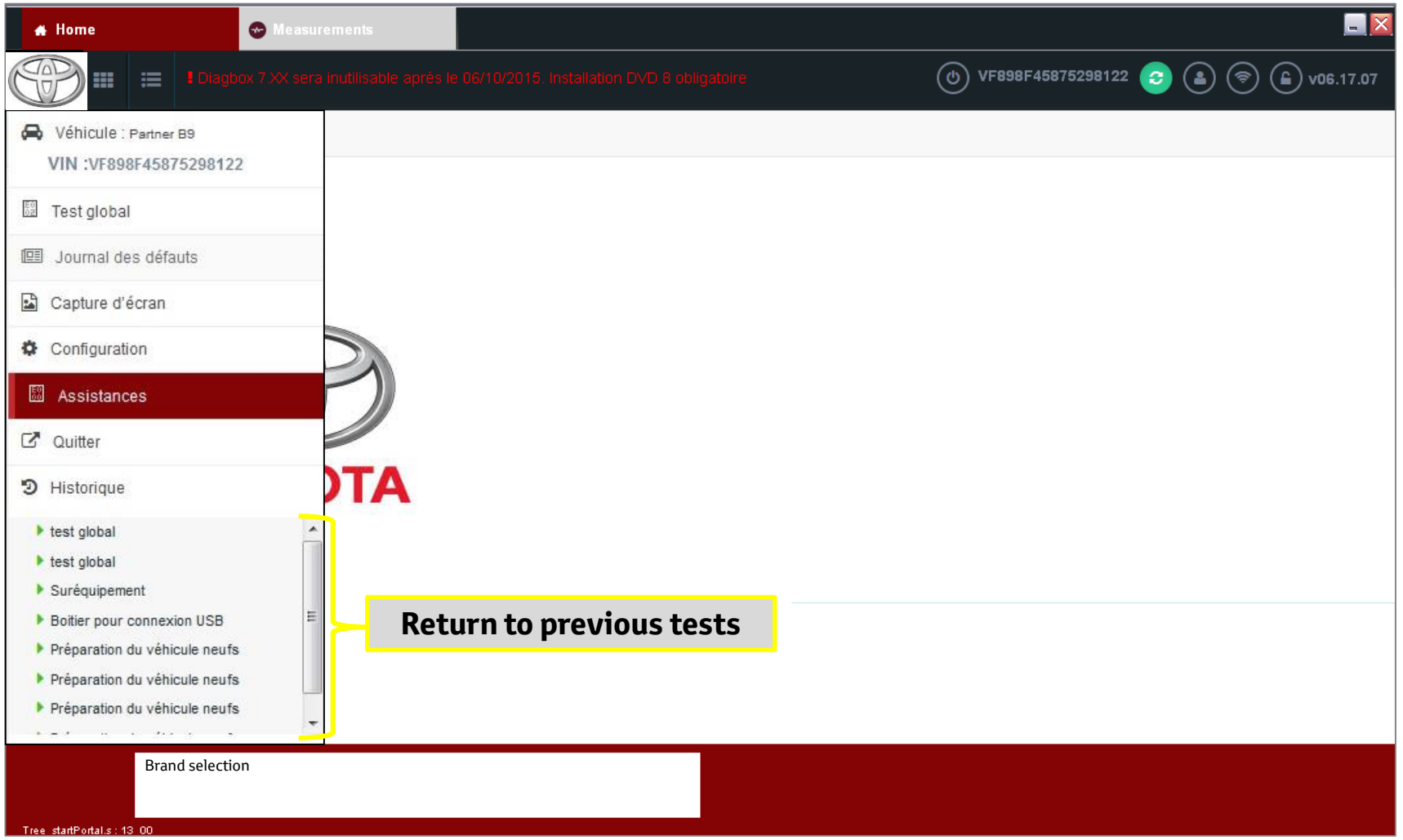
Confirmation of connection to server



Important:
If even in doubts about the connection to the PSA server (failed automatic config, impossible to retrieve ECU software), you can test the connection by pressing on the **Internet pictograme** or press **F12**

Toolbar

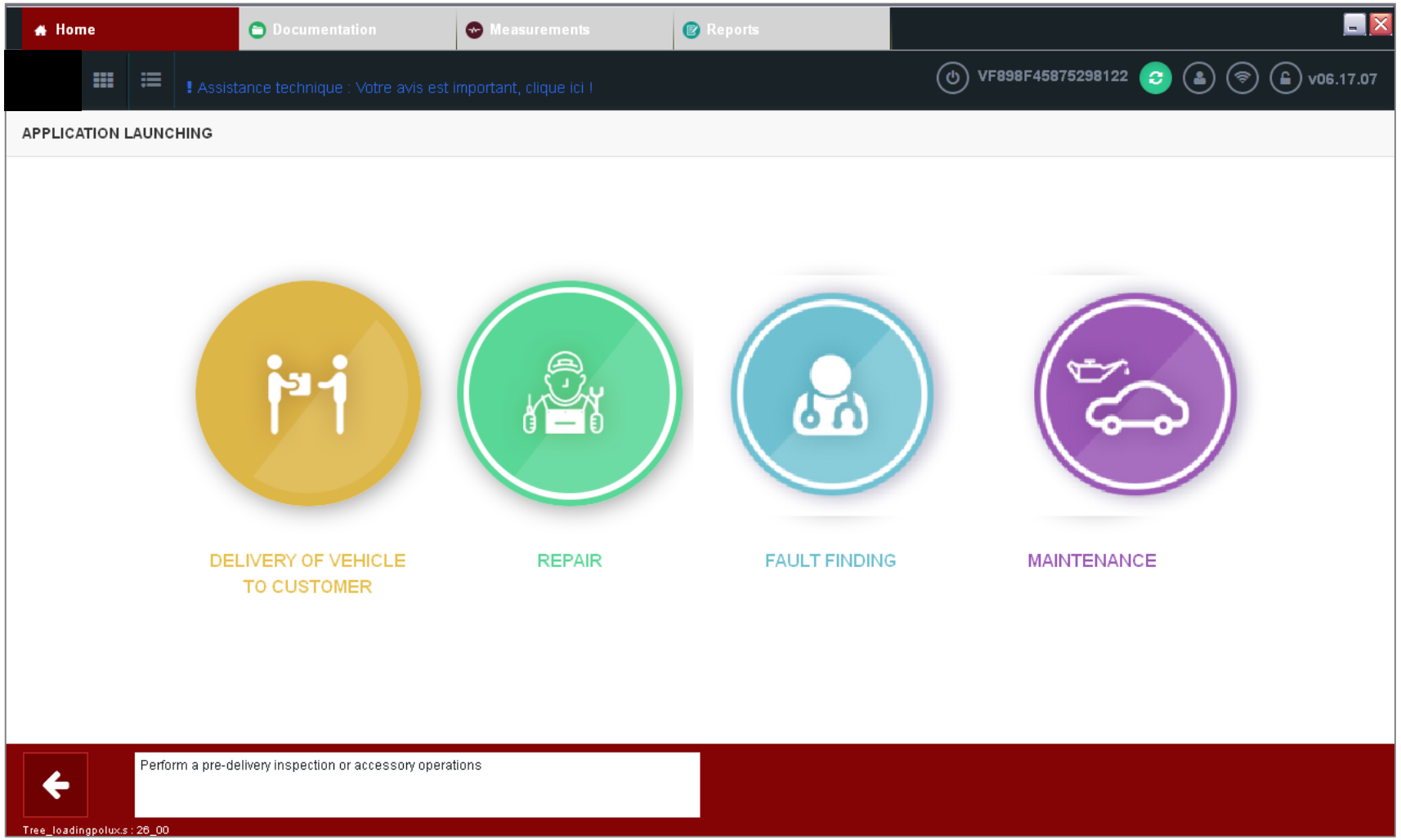
Drop-down Menu



Toolbar

Opening Screen

- Selection of Application



Toolbar

DELIVERY OF VEHICLE TO CUSTOMER

- **"NEW VEHICLE PRE-DELIVERY INSPECTION":**
  - Guides the user in following the procedure to be carried out with the diagnostic tool
    Note: The PDI method accessible in the technical documentation is necessary in order to complete a quality PDI

- **"ADDITIONAL EQUIPMENT":**
  - Used to configure the ECUs (configuring) required after addition of an additional equipment. (Example: Change in tyres, trailer ECU, USB box, CD changer....)
    Note: The operation also enables automatic updating of the manufacturer database by indicating if a new item of equipment has been added (or removed), for in case, later, an automatic configuration over the Internet is carried out.

- **"BATTERY CHARGE STATUS MEASUREMENT":**
  - Enables the user to test the battery with the recommended "Midtronics" tool or with a simple Multi-meter (procedure is longer)

- **"SUSPENSION FLUID LEVEL TEST“:**
  - Guides the user in the procedure to be carried out while complying with the safety precautions

Toolbar

REPAIR

- Used to perform:
  - **Learning procedures** after parts replacement
    (After replacement of e.g. BSI, ECU, Injector, Electric EGR Valve, MAF, Key)
  - **Calibrations**
  - **Troubleshooting**
  - Display or modify a vehicle **configuration**
    (Automatic* [= Over the Internet] or Manual):
    - Initialise an actuator
    - Validate fitting of an additional equipment to the vehicle
    - Validate fitting of an ECU to the vehicle (Automatic for BSI, ECM and TCM)
    - Configure equipment for the customer
      Note: Certain parameters are **not configured in automatic mode**.
      Example: Customer **personalised parameters** such as day time running lights ...
  - Carry out certain **specific maintenance operations**
  - **Prepare a new vehicle**

- When you start the "REPAIR" menu:
  - Tool starts a **global test**
  - The tool **lists all of the ECUs** possible on the vehicle

*Available on certain ECUs only

Toolbar

REPAIR

- Used to perform:
  - Download of ECU Software

    - Used when:
      - When an **ECU is changed**
      - Within the framework of the strict application of a **campaign** or information from the manufacturer

    - Precautions:
      - The **Internet connection** must be valid
      - Tool is **up to date**
      - The tool must be **connected to the mains**
      - The **vehicle battery must be charged**, but no charger connected
      - The download **may not be interrupted**

    - Downloading function is not available for all ECUs

Toolbar

FAULT FINDING

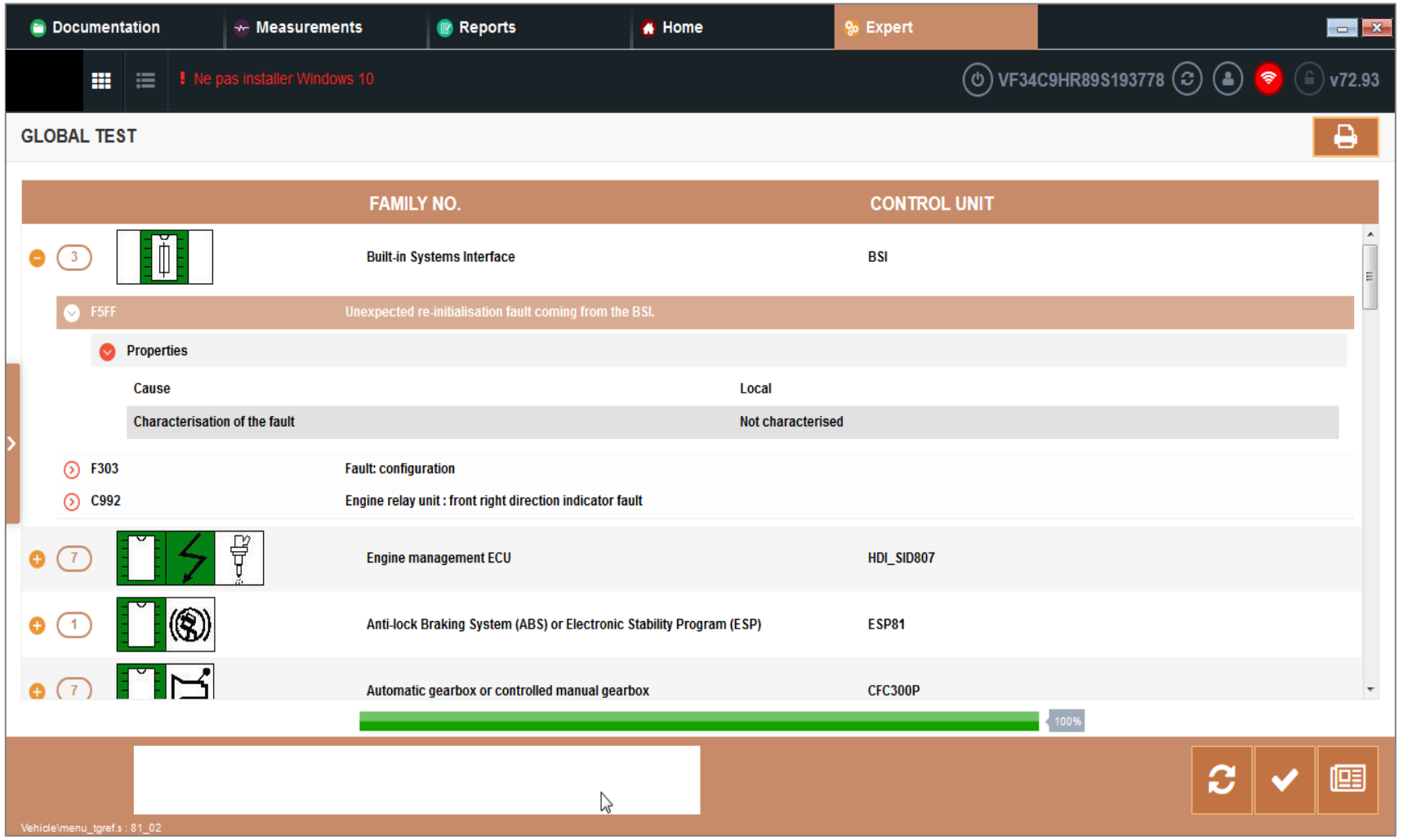
- A fault code means detection of an anomaly by the ECU **self-diagnostic system**
- **Show Diagnostic Trouble Codes (DTC)** present and their associated contexts
- **Clear DTC**
- Diagnosis Steps:
  - **Pre-diagnostic:**
    - This step enables you to be sure of the type of problem and provides you with a reminder of the basics to be tested before going into a more in-depth diagnostic
  - **Straight to the point:**
    - The tool enables you to rapidly access a solution if the problem is already known and applicable to your vehicle
  - **Fault code methods:**
    - The tool enables running of tests in order to diagnose the malfunction shown up by one of more fault codes present on the vehicle
  - **Methods by symptom:**
    - The tool enables running of tests in order to diagnose the customer effect relating to the method

TOYOTA
ALWAYS A BETTER WAY

Toolbar

FAULT FINDING - Expert Tab

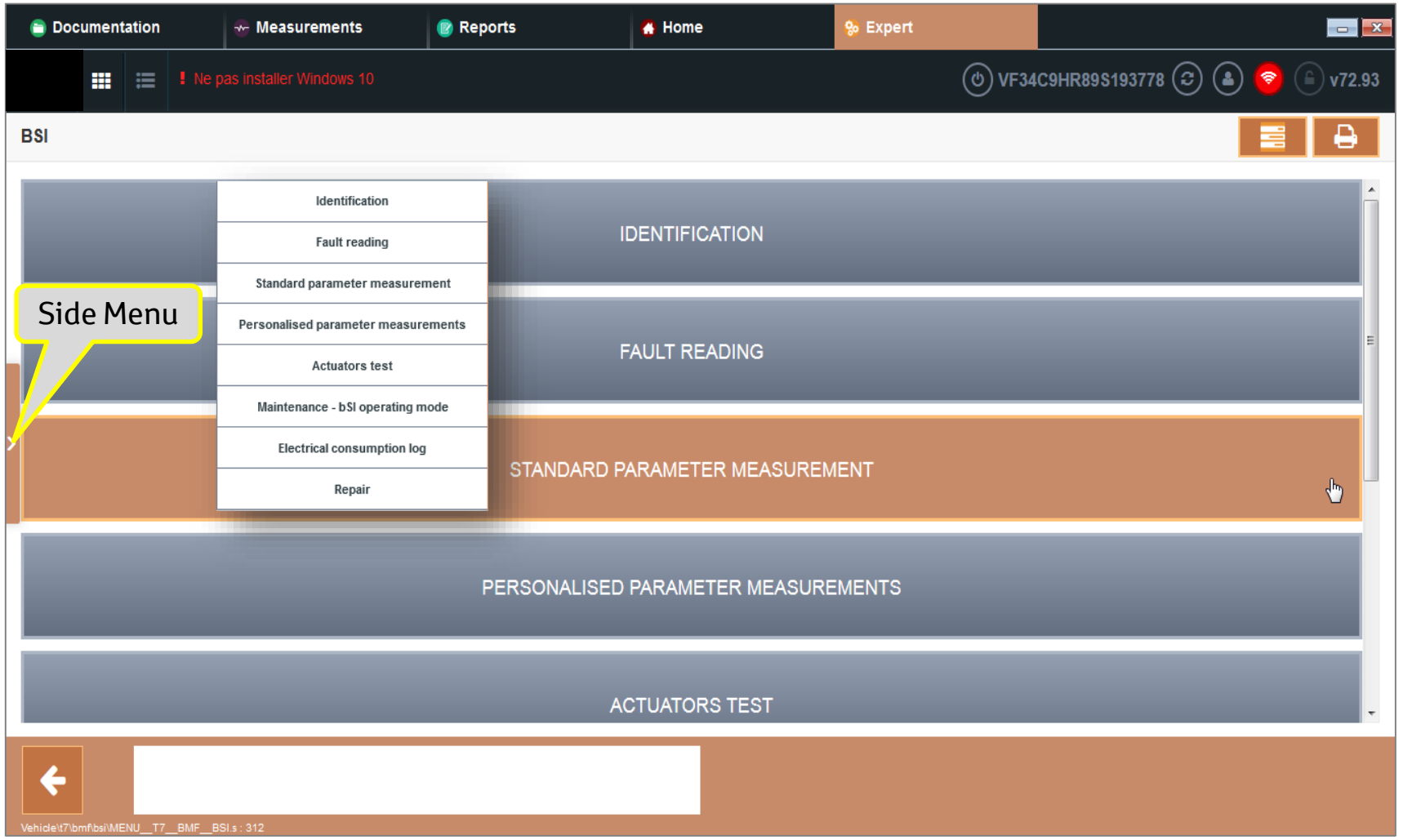
- Global Test



Toolbar

FAULT FINDING - Expert Tab

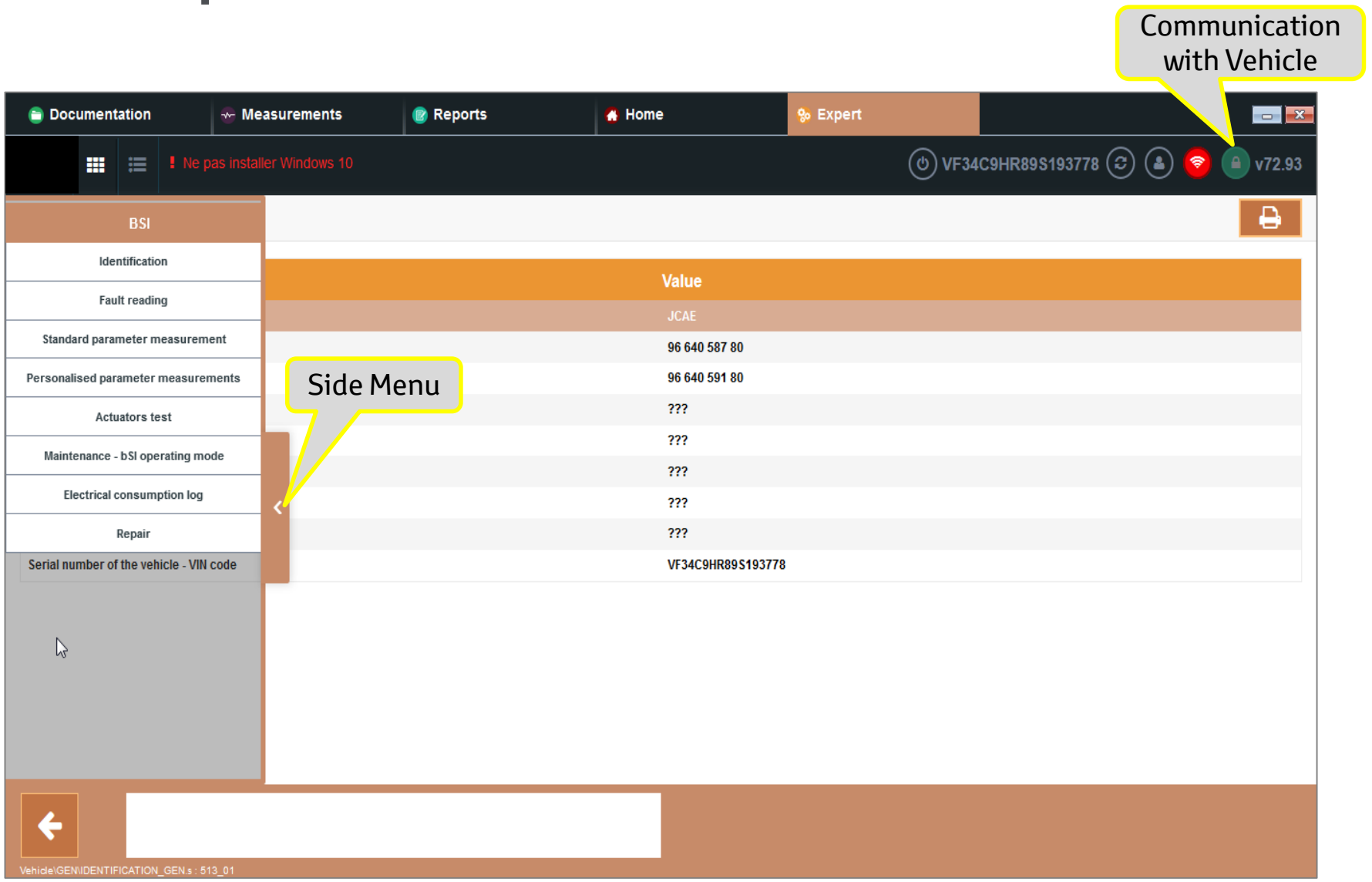
- Parameter Measurement



Toolbar

FAULT FINDING - Expert Tab

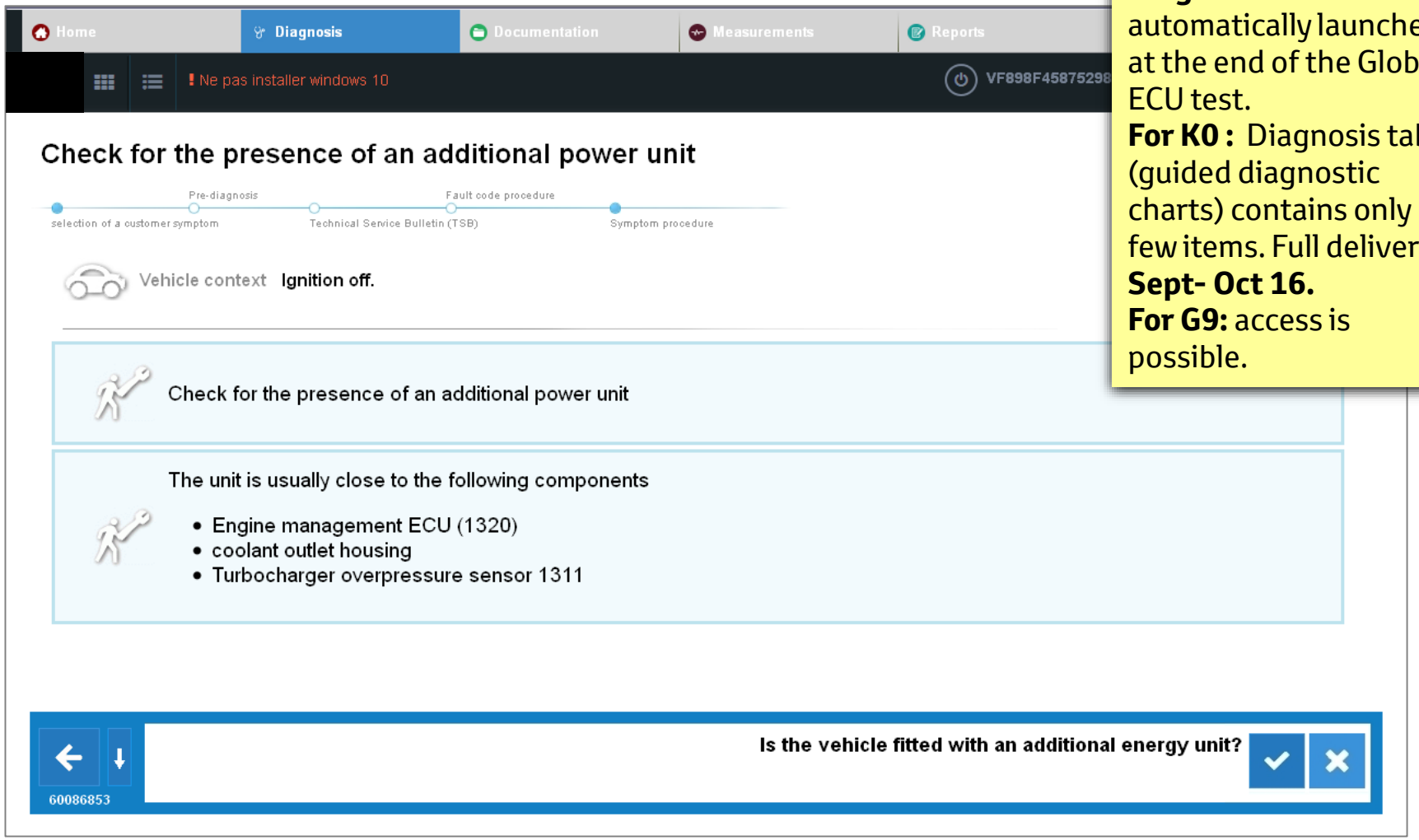
- Side Menu



Toolbar

FAULT FINDING - Expert Tab

- Diagnosis Tab

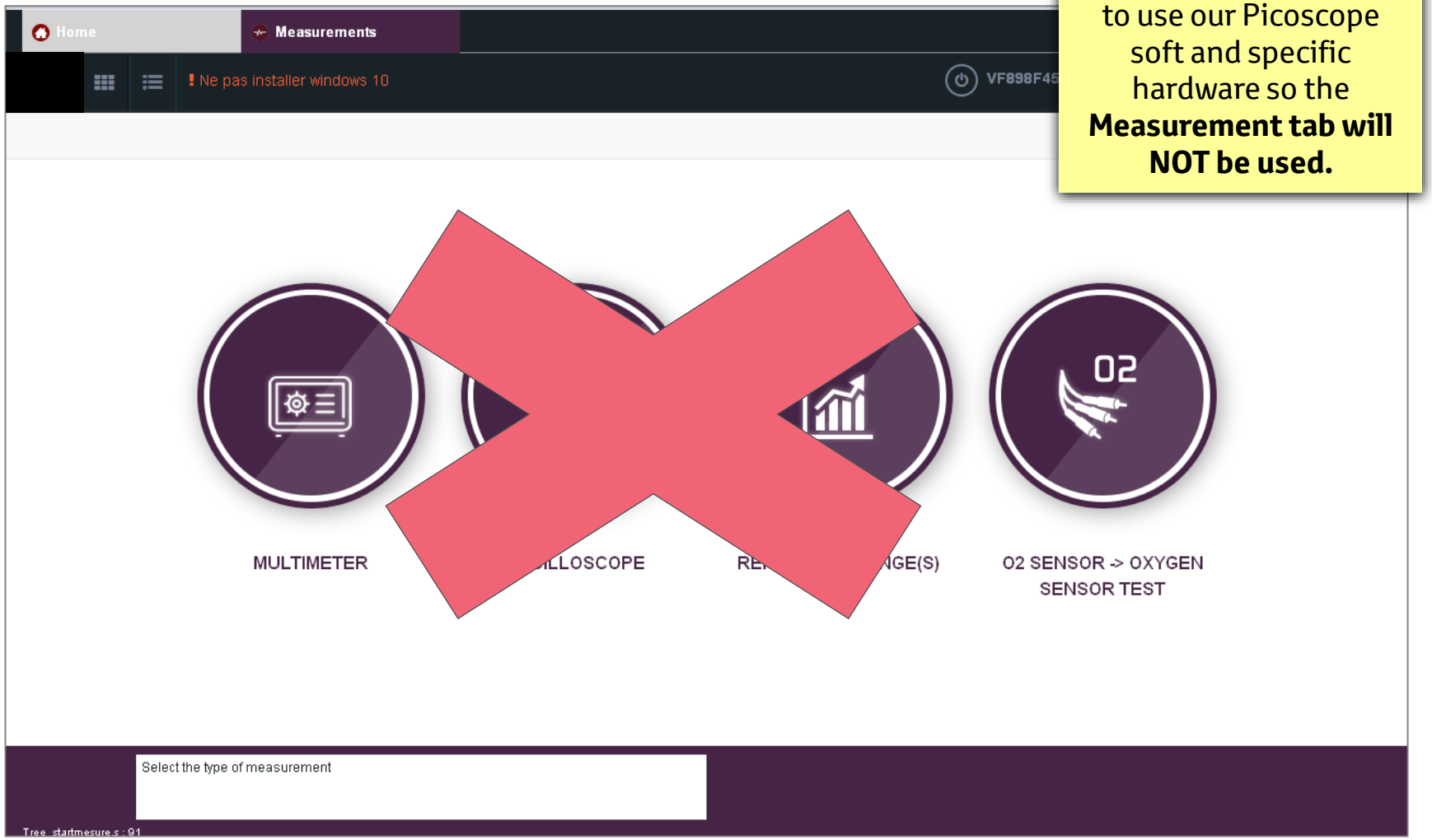


Diagnosis tab is automatically launched at the end of the Global ECU test.
For K0 : Diagnosis tab (guided diagnostic charts) contains only few items. Full delivery **Sept- Oct 16.**
For G9: access is possible.

Toolbar

FAULT FINDING - Expert Tab

- Measurements Tab

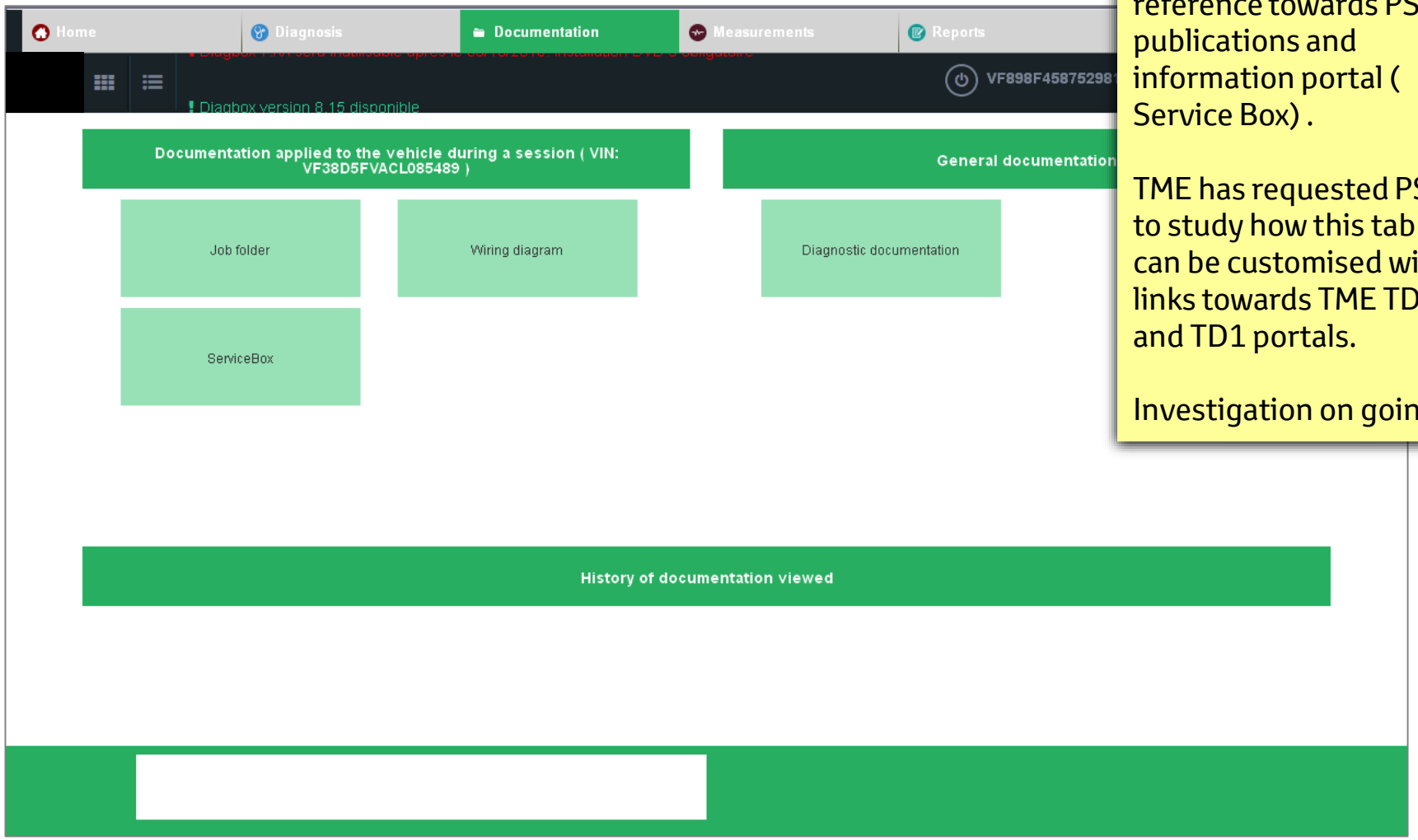


Measuring Tab needs the PSA specific aquisition board.
For ProAce project TME has decided to continue to use our Picoscope soft and specific hardware so the **Measurement tab will NOT be used.**

Toolbar

FAULT FINDING - Expert Tab

- Documentation Tab



Documentation tab is at this moment making reference towards PSA publications and information portal (Service Box) .

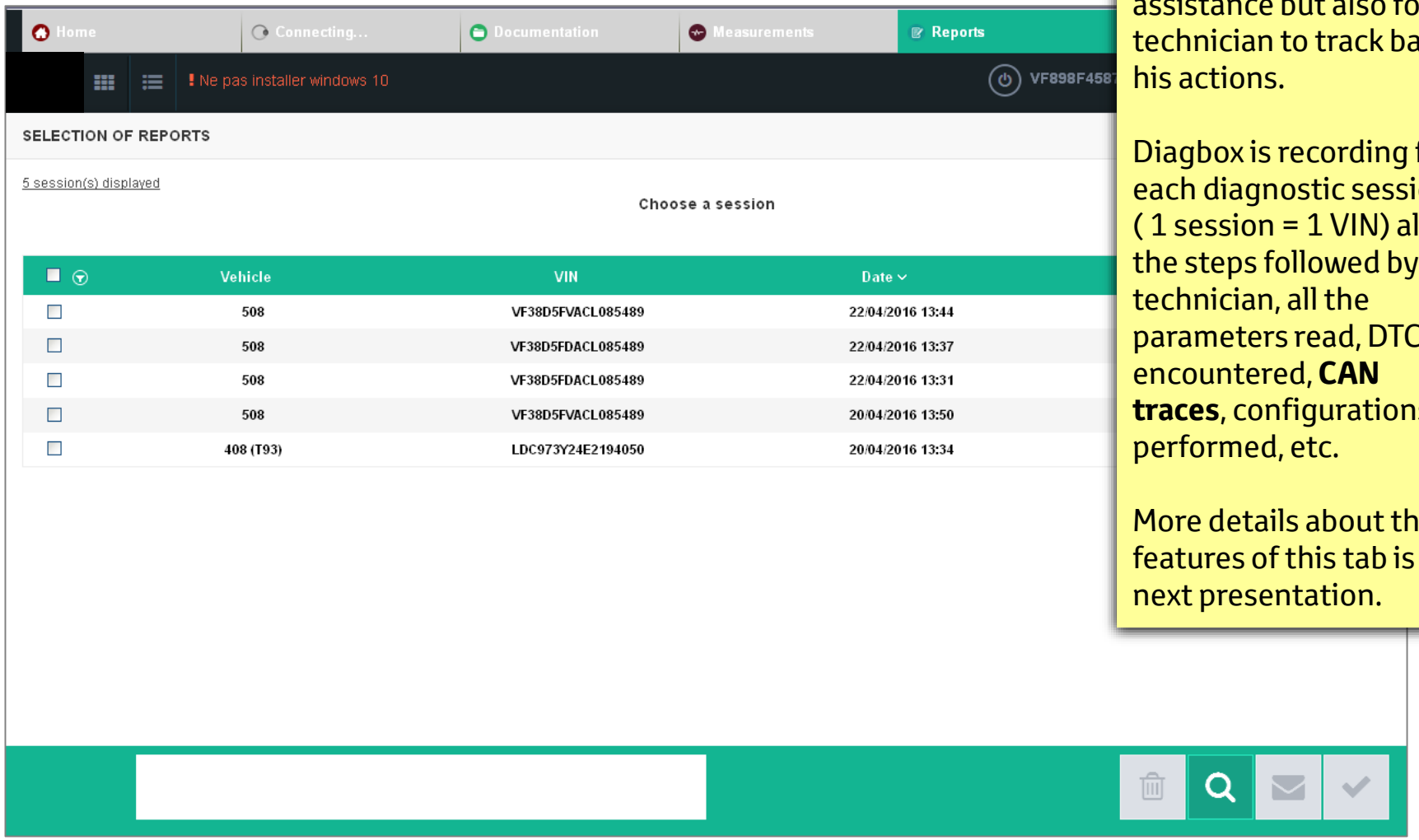
TME has requested PSA to study how this tab can be customised with links towards TME TD3 and TD1 portals.

Investigation on going!

Toolbar

FAULT FINDING - Expert Tab

- Documentation Tab



Reports tab is a very good tool for technical assistance but also for technician to track back his actions.

Diagbox is recording for each diagnostic session (1 session = 1 VIN) all the steps followed by technician, all the parameters read, DTCs encountered, **CAN traces**, configurations performed, etc.

More details about the features of this tab is a next presentation.

Tool Management- Key Message!

Functioning Modes

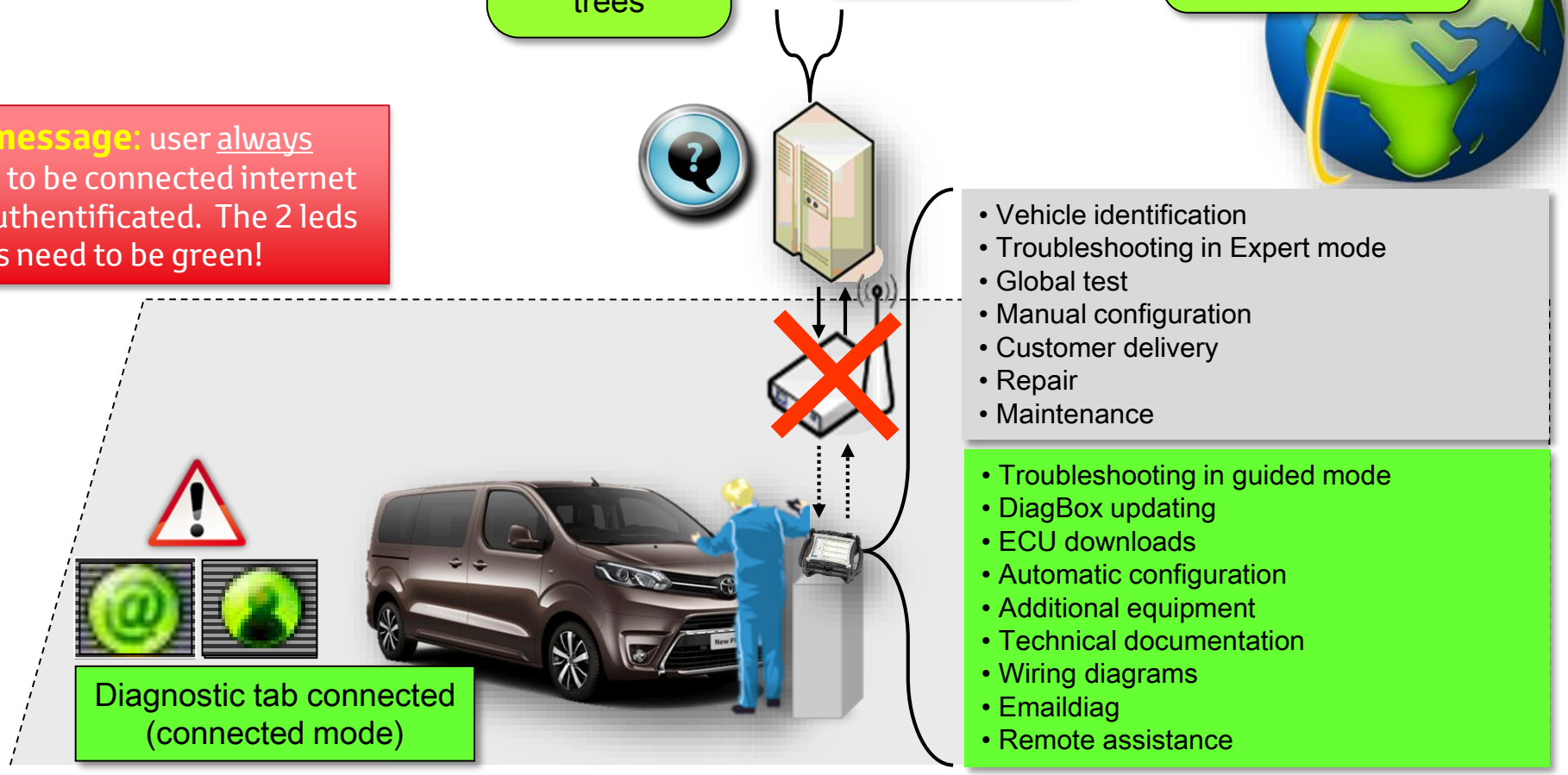
TD3-Access to documentation

Access to the DiagBox diagnostic trees

Access to tool updates

Access to configuring and download data

Key message: user always needs to be connected internet and authentificated. The 2 leds always need to be green!



- Vehicle identification
- Troubleshooting in Expert mode
- Global test
- Manual configuration
- Customer delivery
- Repair
- Maintenance

- Troubleshooting in guided mode
- DiagBox updating
- ECU downloads
- Automatic configuration
- Additional equipment
- Technical documentation
- Wiring diagrams
- Emaildiag
- Remote assistance

Diagnostic tab connected (connected mode)

Tool Management

Updating DiagBox

- A new update is necessary in the following cases:
  - **New Vehicle**
  - **New ECU**
  - **New DiagBox feature**
  - **Correction of anomaly**

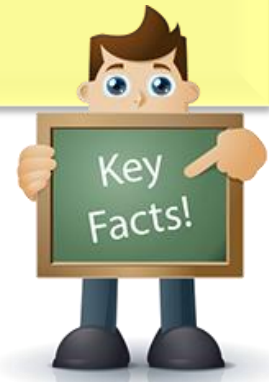
- Before updating the DiagBox:
  - Make sure that you are **online**

- To perform updating:
  - Click on the "**Refresh**" icon

Key facts:

-A remote update is used to update the DiagBox software. (no need to re-install a newer version like in the case of GTS)
There are 2 distinct phases:
-download of the update file: technician can continue his work with Diagbox without any interferences from the update proccess.
***- Installation of the downloaded update file*:** installation will only be carried out the next time the tool is started up.

- If several updates are available, select the most recent, the tool will automatically download all the necessary updates.
-There is an average of one update per month.
- If long time has passed, it is possible that after the first update, a second update file will be detected (tool can jump a limited numbers of versions towards the newest one (3, TBC with PSA))



Economy, Showroom or Customer Mode

- **Energy Economy Mode:**

  - The Economy Mode is activated/de-activated based on:
    - **Remaining time**
    - **SOC** (Battery charge status level) [voltage, temperature, current]
    - **Predicted required voltage** for the next start-up

  - **Remaining time:**
    - It is **reduced by 1 minute** for each minute lapsed when the following conditions are fulfilled:
      - **BSI is awake**
      - **Low speed CAN network is awake**
      - **Power plant is "cut off stalled"**
    - **It returns to its 30 minutes maximum value after each 5 minutes of «Engine running»**

Tool Management

Instructions & Precautions

In case of a ECU reflash:

- Before reflashing to an ECU, note the software version .
- Print out or make a note of the configuring screen
- Avoid cutting the transmission (both between the tool and Internet, and between the tool and the vehicle).
- Connect the tool to the mains power supply.
- Check that the vehicle battery charge is sufficient.
- After the download, check the configuring screens.

If carrying out an actuator test or learning procedure:

- Avoid an interruption in communication.
- Check that the vehicle battery charge is sufficient.

When using the tool, you must follow the instructions given by the tool, and in particular: "**Turn the Ignition OFF and turn it ON again**"

Toolbar

FAULT FINDING - Expert Tab

- **Economy Mode:**

  - The Energy Economy Mode is used to ensure:
    - **Battery life**
    - **Sufficient electrical power** for the next start-up

  - Economy levels:
    - “**Standard**" economy mode to prolong battery life
    - “**Harsh**" economy mode to ensure the next vehicle starting operation

TOYOTA
ALWAYS A BETTER WAY

Toolbar

FAULT FINDING - Expert Tab

- Utility Functions

  - **Economy Mode:**
    - Shuts off several ECU's in order to reduce black current from the battery
      - If activated, the **red battery Warning Light** will blink

    - De-activation of Economy Mode:
      - In the **BSI Menu**, go to **BSI OPERATING MODE > EXIT ECONOMY MODE**
    - De-activation time of Economy Mode:
      - **Max. 60 min.**

  - **Showroom Mode:**
    - **De-activates** the **horn** and **wipers** and **Ignition** will remain **ON all the time**

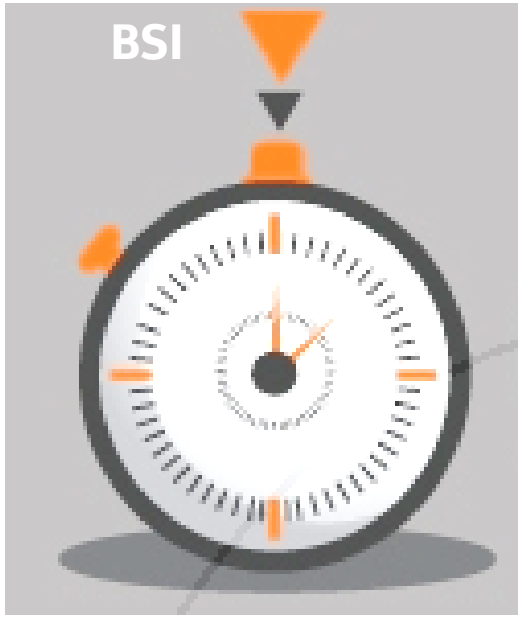
  - **Customer Mode:**

Economy, Showroom or Customer Mode

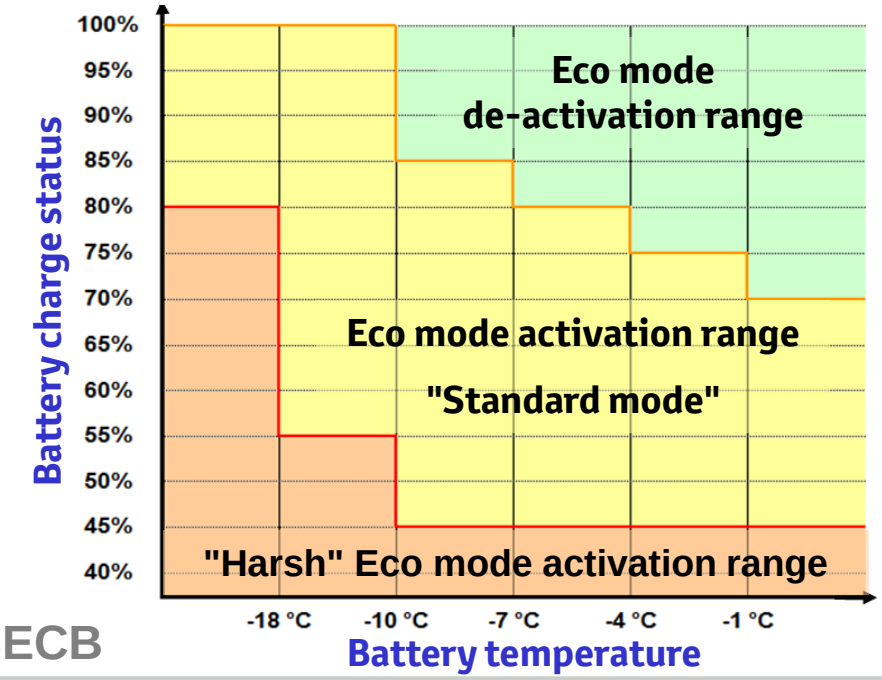
- **Standard Economy Mode** (power-saving mode)**:**
  - Activation Conditions (ONE / OR):
    - **BSI** (“Boîtier de Servitude Intelligent”):
      - Time credit (remaining time)
        [Economy Mode harsh activation conditions not met]
    - **BECB** (Battery Charge Indicator):
      - Battery temperature
      - Battery charge status

Note:
When the BSI is in “**Transport Storage**" or “**Showroom Mode**”, the energy economy mode is at the "**standard**" level

TIME CREDIT = 0



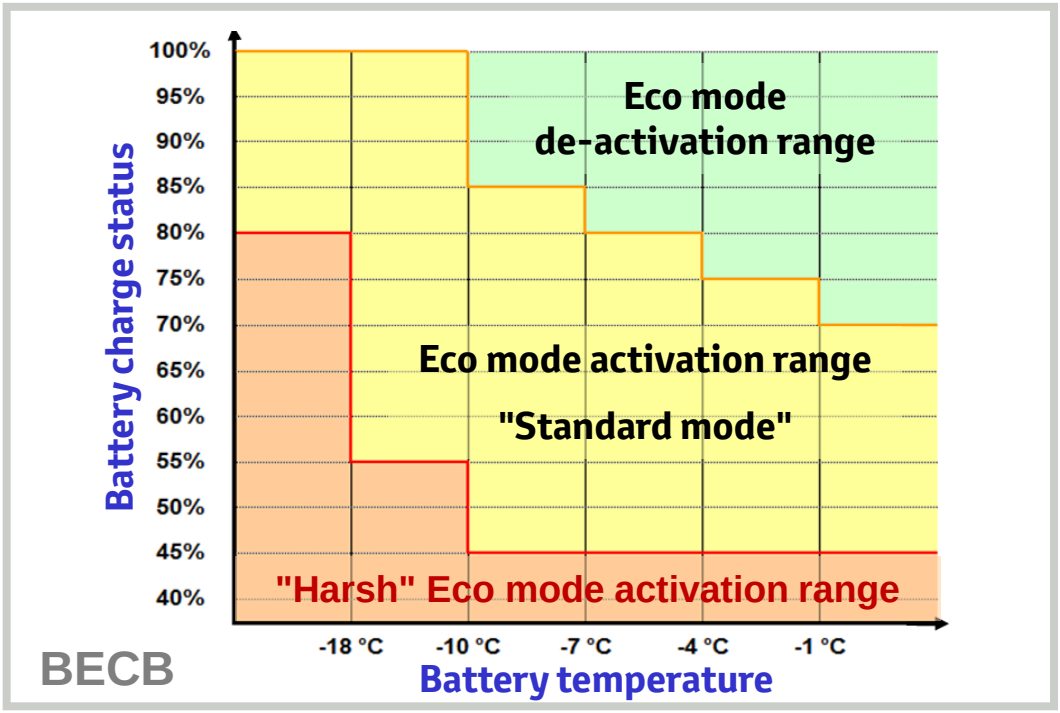
OR



Economy, Showroom or Customer Mode

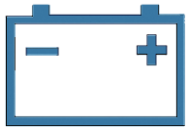
- **Harsh Economy Mode** (power-saving mode)**:**
  - Activation Conditions (ONE / OR):
    - **BSI** (“Boîtier de Servitude Intelligent”):
      - Vehicle stopped time
    - **BECB** (Battery Charge Indicator):
      - Battery temperature
      - Battery charge status
      - Variation in the battery charge status
      - Predicted voltage for the next engine start

OR



Economy, Showroom or Customer Mode

- **Power Economy Mode:**
  - Warnings:
    - Warning message displayed on the following screens:
      - **Multifunction Screen** (simple radio)
      - **Navigation Screen**
      - **Combination Meter** (on the transverse matrix)
    - Indicator Light: In addition to the warning messages, the **“Battery" light** comes on in the Combination Meter



    - **Power Saving Mode** is a contextual **data** item, stored **in the JDD*** (fault log) when a fault occurs

Economy, Showroom or Customer Mode

- **Power Economy Mode:**

  - Warnings:

- **Note:**
  - **After disconnecting then reconnecting the Battery:**
    - System needs a **minimum of 2 hours** instead of 4 hours on the older generation vehicles in order **to reach its battery charge level**

  - **Special Case:**
    Battery SOC < 50% first 20 km:
    - The **warning light** comes on if the battery charge status (**SOC**) is **under 50%** for the vehicle's **first 20 kilometres**

Toolbar

Repair Tab

- Variant Coding (Configuration)

  - **Need:** To **lower number of ECU's in stock**
    - Every PSA ECU has small pieces of software integrated **for specific options or accessories**
      - No need to reprogram an ECU, you **only need to update** the variant coding when installing the ECU
    - Also used to **activate or de-activate some features**

    - Variant Coding can only be done on the following ECU's:
      - **BSI**
      - **Engine ECU**
      - **ABS/ESP**
      - **Airbag**
      - **Instrument panel**
      - **Radio**
  - **Procedure:** Choose CONFIGURATION > MANUAL CONFIGURATION > CONFIGURATION OF THE INSTRUMENT PANEL and double click on the **maintenance indicator function**

Toolbar

FAULT FINDING - Expert Tab

- Variant Coding (Configuration)

  - **Automatic / Manual Configuration:**

    - **Automatic or Manual Configuration:**
      - For most ECU's it is possible to perform an automatic configuration
      - The PSA network will adjust all configurations automatically according to the VIN of the vehicle

    ➢ **Disadvantage of Automatic Configuration:**
    - Sometimes the configuration is incorrect or the customer has installed some accessories afterwards
      - In that case, you will have to perform a manual configuration

    ➢ **Advantage of Automatic Configuration:**
    - You save a lot of time. No need to check which parts are on the vehicle

Toolbar

FAULT FINDING - Expert Tab

- Variant Coding (Configuration)

  - **Automatic / Manual Configuration:**

    - Save or print out original configuration
      Configuring an ECU can be a headache if you don't understand the parameters

      - Before performing an Automatic or Manual Configuration, it is always advised to **save or print out the original configuration**
      - You better do that **before** replacing the part

        * Click "CONFIGURATION"
        * Click "DISPLAY AND PRINTING OF ALL THE PARAMETERS"
        * Print as a pdf and read the document

    - Tip:
      Even if you perform an automatic update, you should always double check if the settings are correct

Toolbar

FAULT FINDING - Expert Tab

- **Economy Mode:**

  - Activation of the **energy economy mode** (standard or harsh) results in the **de-activation or performance limitation** of certain functions:

    - With activation of the **<u>standard</u> economy mode**, the following functions are de-activated:
      - **Radio** cut-off
      - Limitation of the number of **motorised boot openings**,
      - **Load-shedding** for several equipment levels (e.g. **A/C blower** for the passenger compartment pre-warming function)

    - On activation of the **<u>harsh level</u> economy mode** the following functions are de-activated:
      - Inhibit of **antenna** + and **Smart Entry & Start**
      - **Interior temperature** pre-set cut-off
      - **Sidelight** cut-off (lighting function)
      - **Alarm LED** cut-off

Toolbar

MAINTENANCE

- Used to manage:
  - **PF** personalised maintenance
  - Personalised **additive** level maintenance
  - Maintenance schedule and **counter reset**
  - **Oil parameters** reset (specific to commercial vehicle)

Thank You

TOYOTA

ALWAYS A BETTER WAY