Torino, 3rd February 2020

Tangram Technical Note

TShare

Rev.	Date	Change Reason
1	03-02-2020	First Release

Summary

Overview

Since long we were thinking to the customers that, having more the one installation (station), would have appreciated a structure to manage the projects that must be shared between them.
Keeping projects up to date is often time-consuming with a high risk of error.

The need is very tied to the use in the workshop and this immediately poses the problem of the separation between the pure measurement programs and the associated information which also come from the measurement, but cannot be shared between the stations. For example, the references related to the physical characteristics of the machine: the probes, the tooling systems, the corrections of the values with respect to the "master".
To make it possible, it was required a significant internal restructuring of Tangram even if not visible from the outside. Version 5 of Tangram looks very similar to the previous ones except for minor tweaks.

In addition, we wanted the system to be as simple as possible for operators to use and with minimal impact on the company network.

So the sharing system we designed, which we call TShare, is based simply on the file system and requires the definition of a repository identified only by the path of a folder with read-write access and reachable by all the stations.

Repository and Stations definition

Before using TShare, i.e. starting sharing projects, the system requires a strt up procedure.
The necessary condition is to know the folder that will be used to hold the projects to be shared. This root folder must have read and write access from all involved stations.
The initial operations are performed by using a service program, provided to the TShare administrator. See the "TShare Monitor" paragraph.

The actions to be done are:
- Enter the root path of the Repository.
- Define the name of the Repository → it will be a subfolder starting from the root path.
  (at the moment only one repository is managed).
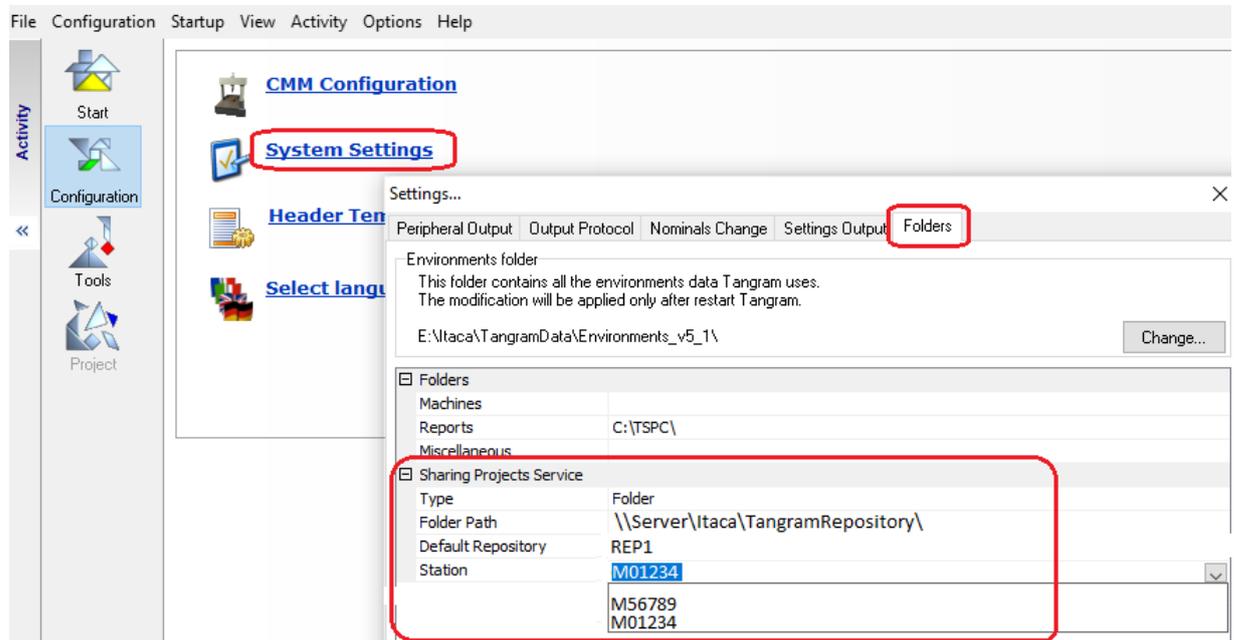- Add the station names one by one

Configuration at Station side

In Tangram the configuration consists of:
- Input the Repository root.
- Choise the Repository

- Selection of the proper station:

Projects Management

Without TShare, in the projects list each project is labeled with an icon that identify its status:

- **Local** project stored in the default location
- **Old style** project (V4) still not converted into V5 format. At the first save it will be converted and saved locally
- **External** project located in a custom folder

With TShare you add one more state of the projects: "**Shared**" it is identified by a new symbol, better a set of symbols.
The base of the new symbol is made of 3 circles connected:
 where:
- The left ball means the server
- The right up ball means the other stations
- The right bottom ball represents the current station

In addition there is a color code to identify some states.
- 🟢 → up-to-date
- 🟡 → locked
- 🔴 → error
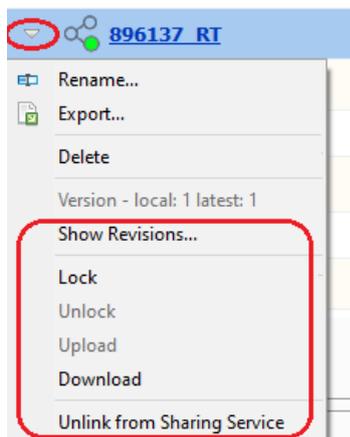- 🔵 → inconsistency. Actually this happens only when the project has been modified without having been first locked.

The "shared" state actually includes a combination of states, therefore the displayed symbol visually represents the sharing condition:

The project is shared and up to date

The project is not up to date. In the repository is a new version to download

Project up to date and locked by another station

Project locked by me

The project is not up to date and is locked by somebody

My project has been modified locally without locking it before.
The condition can be remedied by issuing a lock or by doing a download that overrides my version.

My project has been modified locally without locking while it is locked by another station
The condition can be remedied by doing a download that overrides my version.

My project has been modified locally while it is locked by another station

The project is no more present in the repository

In the repository is a new version to share but the project has been modified locally
The condition can be remedied by doing a download that overrides my version.

The repository is not reachable.

Functions to manage shared projects

The functions applicable to a project, that are shown in a drop down menu by clicking the arrow near the project entry, in case of sharing, increases:
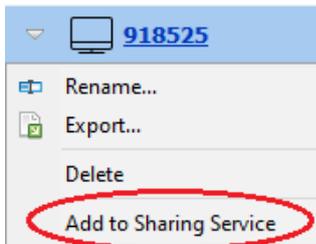

- Show Revisions → to have a view on the status of revisions
- Lock → to reserve the project for modification. Only one station a time can lock a project.
- Unlock → free the project.
- Upload → Update the repository project with the the current saved revision
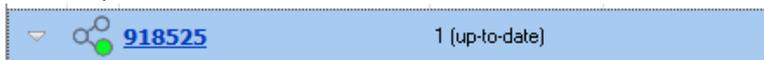- Download → Upgrade the station to the last repository revision

- Unlink from the Sharig Service → to disconnect the project from the sharing system. The project will become local.

How to add a new project to the repository

If you want to add a new project into the repository, click on the options arrow near the project entry and select "Add to Sharing Service"

If the project is not already present in the repository, it is added to TShare. It assumes the status of "up-to date", and version 1:
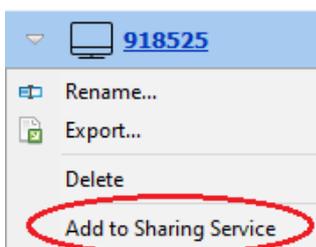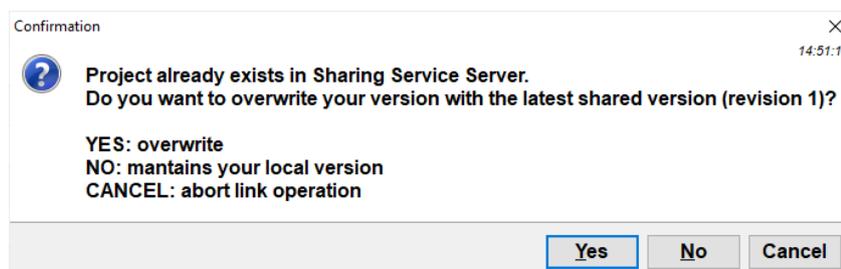

Now, any other station can download it.

How to link a project to the same one in the repository

If there is a project not in "shared" in the current station, but already included in TShare, it can be linked to repository by using the same option "Add to Sharing Service".
But in this case it is necessary to take decision about the versions:

Being that the project already exists in the Sharing Service, the following question appears:

- Answer **YES** to download the last repository version overriding the local one.
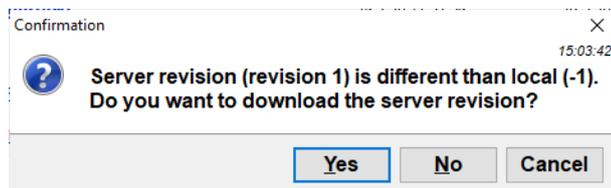 In this case the project becomes up-to date:

Or,

(in case some other station is locking it)

- Answer **NO** if the local version must not be override but used to upgrade the sharing version.
  In this case the project status becomes inconsistent and the revision number is unknown (-1):

Then lock the project.
Being that the two versions are uncorrelated, the following brings up:

Choose NO to keep the local version.
Finally, Click on Upload to reach the alignment with the server

And the project becomes up-to date:

How to import a project from the repository

If you want to add a project in your station from the repository, use the new function:
Import Shared Project …

The list of repository projects for selection is displayed.

Name	Revision	Revised by	Revision Date	Modified Date	Locked	Locked by	Locked Date	
772130_RT	1	ST0	16.3.20 18:28:51		☐			PIPPO:\772130_RT
918525_RT	1	ST0	16.3.20 18:28:54		☑	ST0	17.3.20 17:24:33	PIPPO:\918525_RT
772130	1	ST0	16.3.20 18:28:57		☐			PIPPO:\772130
896137_RT	1	ST0	16.3.20 18:29:00		☐			PIPPO:\896137_RT
955007_RT	2	ST0	16.3.20 18:29:52		☐			PIPPO:\955007_RT
918525_ScanningPro...	1	ST0	16.3.20 18:29:08		☐			PIPPO:\918525_Scan...
905860	1	ST0	16.3.20 18:29:13		☐			PIPPO:\905860
868958_scan	2	ST0	17.3.20 17:24:39		☐			PIPPO:\868958_scan
868958	1	ST0	16.3.20 18:29:21		☑	ST0	16.3.20 18:29:33	PIPPO:\868958
733666	1	ST0	19.3.20 14:24:45		☐			PIPPO:\733666
918525	1	ST1	19.3.20 14:50:55		☑	ST1	19.3.20 16:06:39	PIPPO:\918525

TShare Monitor

It is dedicated to the administration of the Sharing system.

Projektspeicherpfad: E:\Itaca\TangramData\THYRepository\

Projektspeicher PIPPO

○ English ◉ Deutsch

Status des Projektes

Name	Revisionsstand	Geändert von	Änderungsdatum	Gesperrt	Gesperrt von	Datum der Sperre	Ursache der Sperre
772130_RT	1	Gabry	16/03/2020 18:28:51	☐			
918525_RT	1	Gabry	16/03/2020 18:28:54	☑	Gabry	17/03/2020 17:24:33	
772130	1	Gabry	16/03/2020 18:28:57	☐			
896137_RT	1	Gabry	16/03/2020 18:29:00	☐			
955007_RT	2	Gabry	16/03/2020 18:29:52	☐			
918525_ScanningProfile	1	Gabry	16/03/2020 18:29:08	☐			
905860	1	Gabry	16/03/2020 18:29:13	☐			
868958_scan	2	Gabry	17/03/2020 17:24:39	☐			
868958	1	Gabry	16/03/2020 18:29:21	☑	Gabry	16/03/2020 18:29:33	
733666	1	Gabry	19/03/2020 14:24:45	☐			
918525	1	ST1	19/03/2020 14:50:55	☑	ST1	19/03/2020 16:06:39	
733666_RT	1	Gabry	19/03/2020 16:41:07	☐			

Projektmonitor   Ereignisprotokoll   Admin

On top there is the join to the Repository root, i.e. the folder established for TShare.
Once the path has been entered with the help of "Browse" function, it is stored and shown in each new execution of the application.
Click on **Join** button to make the connection.
The repositories appair in the Drop-down list.

<mark>Attention</mark> → At the moment Tangram cannot manage more that one repository.

As soon as the Repository is selected there are 3 tabs to manage from different points of view the contents of TShare.

Monitor tab

It shows the projects status of the Repository.
It means display the list of projects included in the repository i.e. for each of them:

- The current revision number
- The station that updated the last revision
- Date of the last revision
- Lock status
- If locked, which station is locking
- If locked, the date of lock
- If present, the reason input at the lock moment

Event Log tab

Event tab shows the activity on the repository, i.e. all the registered events on the projects and stations, in the time interval selected.

Datum-Zeit ▽	Projekt	Arbeitsplatz	Details
19/03/2020 16:41:07	733666_RT		Project [733666_RT] with ID [12] created starting from revision [0]
19/03/2020 16:41:07	733666_RT	Gabry	Project [733666_RT] with revision [1] uploaded by station [Gabry] with description []
19/03/2020 16:41:07	733666_RT	Gabry	Project [733666_RT] linked on station [Gabry]
19/03/2020 16:06:39	918525	ST1	Project [918525] locked by station [ST1] with reason []
19/03/2020 16:05:29	918525	ST1	Project [918525] linked on station [ST1]
19/03/2020 16:05:15	918525	ST1	Project [918525] unlocked by station [ST1]
19/03/2020 16:05:05	918525	ST1	Project [918525] linked on station [ST1]
19/03/2020 16:04:58	918525	ST1	Project [918525] unlinked on station [ST1]
19/03/2020 16:03:53	918525	ST1	Project [918525] locked by station [ST1] with reason []
19/03/2020 16:03:51	918525	ST1	Project [918525] with revision [1] downloaded on station [ST1]
19/03/2020 16:02:37	918525	ST1	Project [918525] linked on station [ST1]
19/03/2020 16:02:33	918525	ST1	Project [918525] unlinked on station [ST1]
19/03/2020 15:58:31	896137_RT	ST1	Project [896137_RT] linked on station [ST1]
19/03/2020 15:58:31	896137_RT	ST1	Project [896137_RT] with revision [1] downloaded on station [ST1]
19/03/2020 15:52:46	918525	ST1	Project [918525] linked on station [ST1]
19/03/2020 15:52:46	918525	ST1	Project [918525] with revision [1] downloaded on station [ST1]
19/03/2020 15:52:40	918525	ST1	Project [918525] unlinked on station [ST1]
19/03/2020 15:51:42	918525	ST1	Project [918525] unlocked by station [ST1]
19/03/2020 15:50:59	918525	ST1	Project [918525] locked by station [ST1] with reason []
19/03/2020 15:46:45	918525	ST1	Project [918525] linked on station [ST1]
19/03/2020 15:46:45	918525	ST1	Project [918525] with revision [1] downloaded on station [ST1]
19/03/2020 15:46:31	918525	ST1	Project [918525] unlocked by station [ST1]
19/03/2020 15:46:09	918525	ST1	Project [918525] linked on station [ST1]
19/03/2020 15:45:52	918525	ST1	Project [918525] unlinked on station [ST1]
19/03/2020 15:10:35	918525	ST1	Project [918525] linked on station [ST1]

Startdatum 09/03/2020   Enddatum 24/03/2020

Admin tab

The tab is dedicated to the administrator. In this panel is possibly to have a view on the repository status, also filtering by project or by station.

Moreover here is where the administrator can:

- Create a new repository path (the root of TShare)
- Add a new Repository
- Add a new Station

By double-clicking on a project name of the list all the versions of the projects are displayed.
Here you can delete the versions of the project starting from the selected version (purge buttom).
However, the most recent version of a project is never deleted