ColorCert Inline API with IntelliTrax
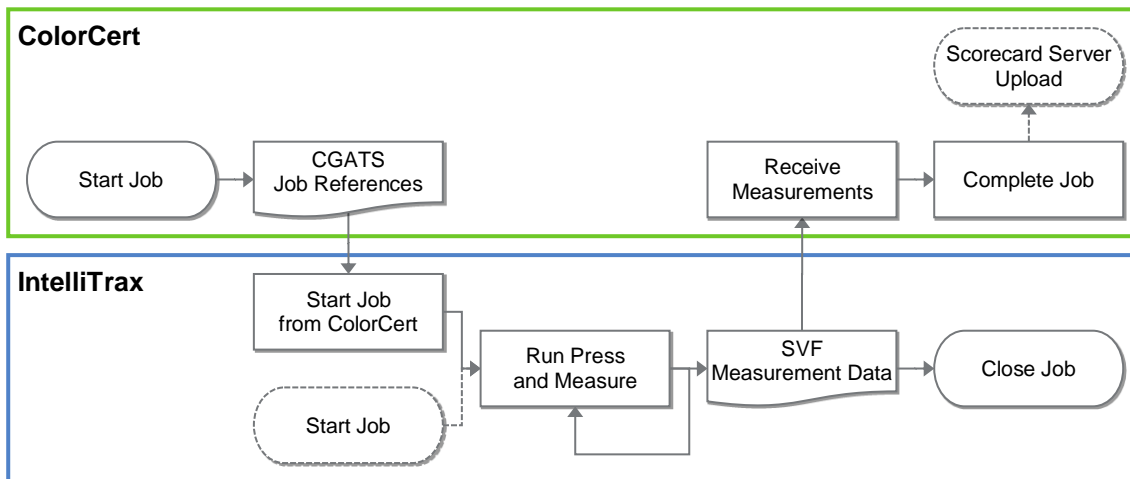
Version History

- October 14th 2015 - Version 1.0
  (IntelliTrax-Colorcert-v1.0.docx based on ColorCert 2.5 and IntelliTrax 1.6)
- October 12th 2016 - Version 2.0
- March 31st 2017 - Version 2.1 (Updated support links)

Scope

This document describes the initial setup and functionality of the two way connection between IntelliTrax and ColorCert.

Solution Summary

Create a ColorCert job as usual. Load the job at the actual ColorCert Workstation that is prepared for the connection to IntelliTrax. This can be the same work station or it can be a ColorCert Pressroom Client on the press for example. A ColorCert exchange file (an extended CGATS17 text file) with job references is saved in a shared folder that is accessible to IntelliTrax and ColorCert.

Use this job file in combination with an IntelliTrax template to create the job in IntelliTrax and measure as usual. IntelliTrax automatically saves the measurements in a Scan Value File (SVF) in a different shared folder.

ColorCert receives the measurement files and shows the results in the Summary tab. If the ColorCert Rules define a ScoreCard server, the scores of the job are uploaded after job completion.
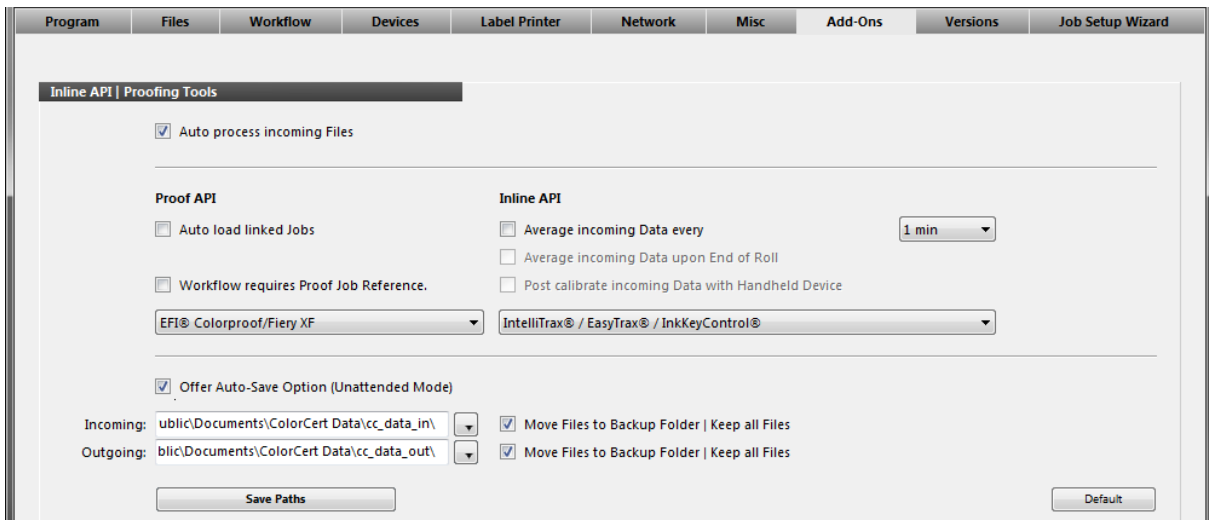
Requirements

- ColorCert 2.7* (Manager to create ColorCert Jobs or Applications)
- ColorCert 2.7* (Pressroom Client to run the job)
- No additional add on required, Inline API Workflow X-Rite ITX is included in the license.
- IntelliTrax Launcher 2.0*.
- Useful samples and information from the ColorCert support website
  http://www.xrite.com/service-support/product-support/formulation-and-qc-software/colorcert-desktop-tools
  - ColorCert Startup and Configuration Guide
  - ColorCert InlineAPI ITX Sample Data
  - L7-566-eXact Scan Sample Sheet A3 (pdf inside the Sample Data package)
- Useful information from the IntelliTrax support website
  http://www.xrite.com/service-support/product-support/scanning-instruments/intellitrax2
  - InkFormulation 6 Manual

* General bi-directional functionality already exists with IntelliTrax 1.8 and ColorCert 2.6.7 but lacking further improvements.
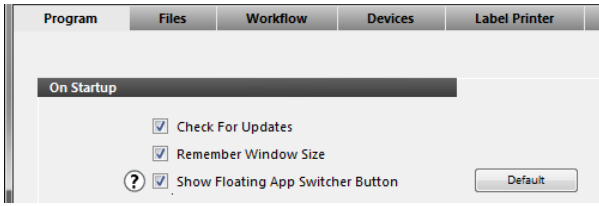
Initial Setup

Initial Setup in ColorCert

1. Start **ColorCert** and go to **Window -> Preferences…**
2. Select the **Add-Ons** tab

- Select **Auto process incoming files**
- Under **Inline API** select **IntelliTrax/EasyTrax/InkKeyControl** from the drop down list
- Select **Offer Auto-Save Option (Unattended Mode)**
- Next to **Incoming** and **Outgoing** you may change the shared folder locations where the files are saved. Default locations in ColorCert are
  C:\Users\Public\Documents\ColorCert Data\cc_data_in for SVF files from IntelliTrax
  C:\Users\Public\Documents\ColorCert Data\cc_data_out for CGATS files to IntelliTrax
- Optional: select **Average incoming Data every** and select the **time interval** from the drop down list (e.g. 20 min) to average incoming data.
- Optional: select **Move Files to Backup Folder | Keep all Files** for the Incoming or Outgoing shared folder to keep files that were sent or received. Folders named "cc-backup" will be created in the same location. You will also find a log file inside the backup folder.
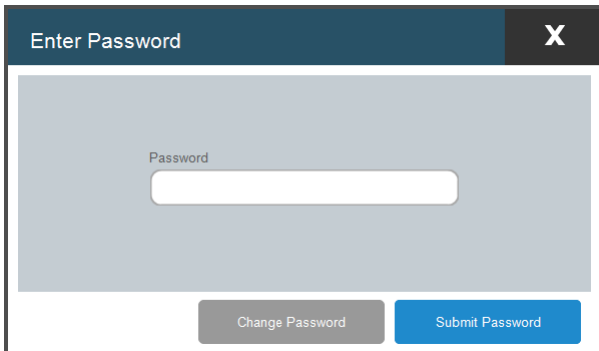
3. Optional: Select the **Program** Tab.

- When you run IntelliTrax and ColorCert on the same workstation you should activate **Show Floating App Switcher Button**. The App Switcher Button is always in front of other applications and allows switching back to ColorCert while IntelliTrax is in kiosk mode. Depending on the connectivity status of your handheld device it can look different, but the functionality is the same:
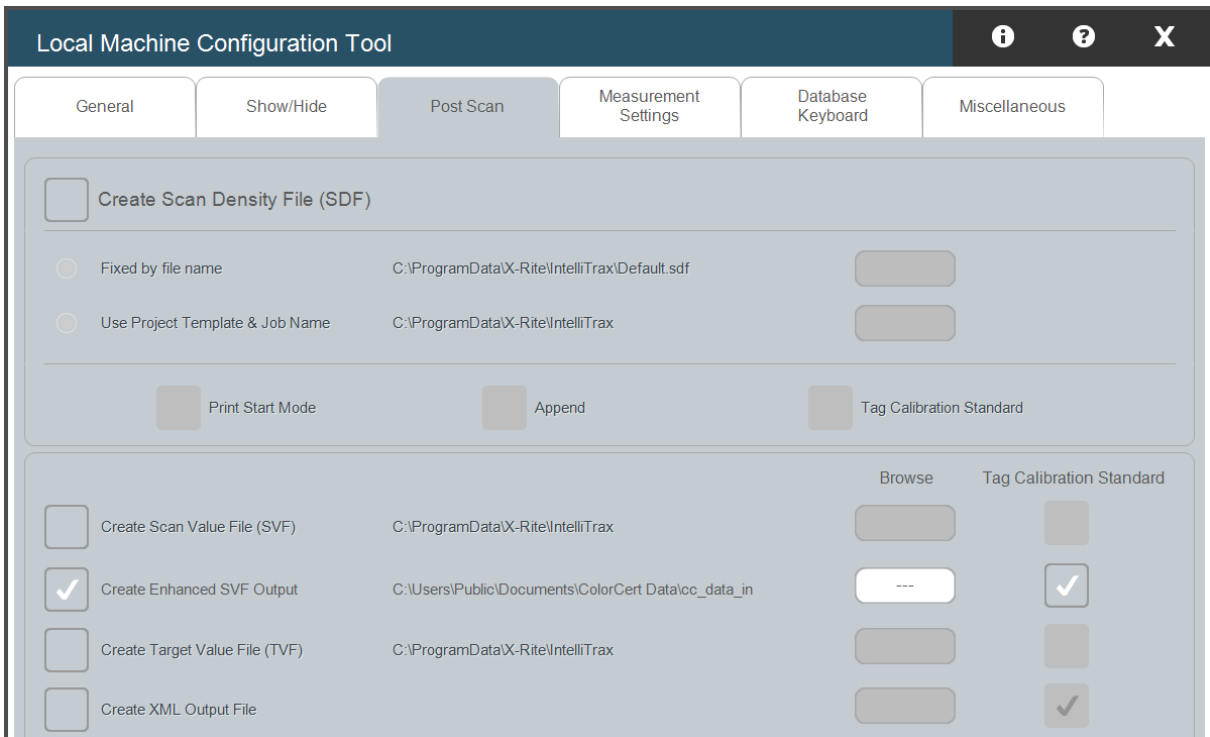

4. **Close** the ColorCert Preferences.

Initial Setup in IntelliTrax

1. Start the **IntelliTrax Launcher** and select the **Local Machine Configuration Tool**.
2. You will be asked to Enter Password. This is usually not set, so you can leave the Password field empty and click **Submit Password**.
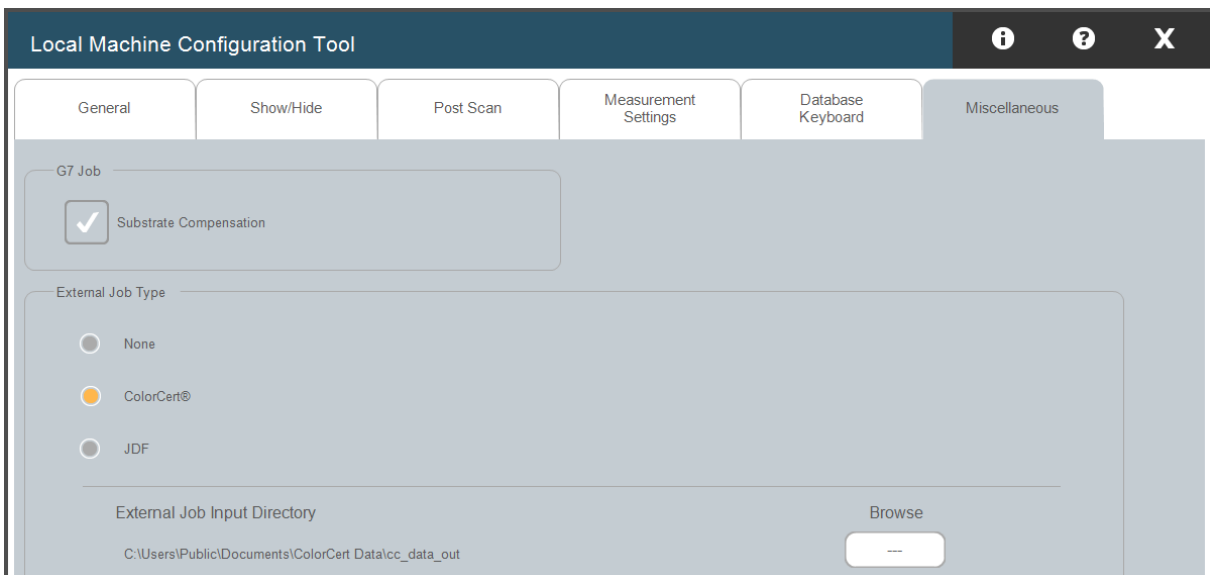
3. Select the **Post Scan** tab

- Select **Create Enhanced SVF Output**. Only measurements in Production Mode are exported as SVF files.
  Alternatively: Select **Create Scan Value File (SVF)**. Every measurement is exported. This is often used for Closed Loop communications.
- Under **Browse** you may change the shared folder location for the SVF files.
  Default location in ColorCert is **C:\Users\Public\Documents\ColorCert Data\cc_data_in**
- Select **Tag Calibration Standard** for your output SVF file.
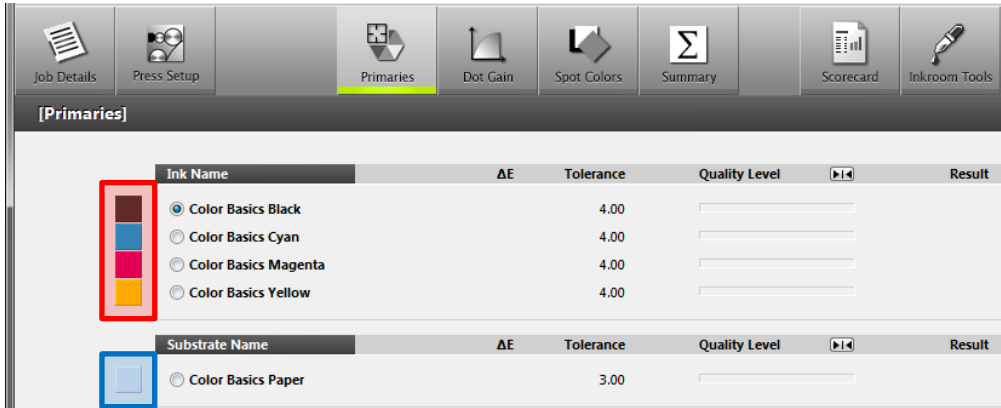
4. Select the **Miscellaneous** tab

- Under **External Job Type** select **ColorCert**
- Under **External Job Input Directory** you may change the shared folder location for the job files from ColorCert. Default location in ColorCert is
  C:\Users\Public\Documents\ColorCert Data\cc_data_out

Job Preparation

You need to have a ColorCert job and a matching IntelliTrax Template. Please refer to the individual manuals for information on how to create a Job in ColorCert and a Template in IntelliTrax.

- **Primaries:** the number of Primaries in the ColorCert Profile needs to be equal to or less than the number of ink units defined in the IntelliTrax Color Bar.
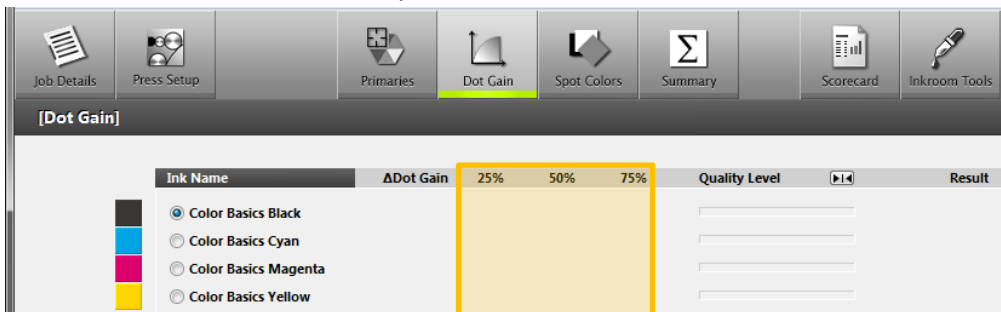

In this case KCMY.

Note: In the IntelliTrax Color Bar Editor you only define the solid ink unit numbers. In this case the ColorCert job defines the order of colors allocated to the ink units.

- **Substrate:** the IntelliTrax Color Bar needs to contain a substrate patch.
- **Dot Gain:** the IntelliTrax Color Bar needs to contain one tint patch for each Primary defined in the ColorCert Profile and for each required Dot Gain tint defined in the ColorCert Rules

In this case 25, 50 and 75% tints for 4 primaries KCMY

- **Optional: Overprints** like Trapping or Gray Balance and **Spot Colors** that are only available as a full tone patch in the IntelliTrax Color Bar must be defined as SpotColors in ColorCert.

In this case 3 trapping patches RGB defined as SpotColors marked as Build & Separated.

Note: If your IntelliTrax Press and Color Bar contain more ink units defined than the amount of Primaries available in the ColorCert job, it will fill up the units with SpotColors. This is correct for SpotColors that are defined as real inks in ColorCert. If you have SpotColors defined as build colors (like trapping or gray balance) make sure you also have separation settings applied to avoid import problems in ColorCert.

Parameters of an IntelliTrax Job created from a ColorCert job

Currently solid ink and substrate names, the relevant Lab values and the solid ink density are used from the ColorCert job. Some job information and most of the parameters are used from the IntelliTrax System Configuration default.

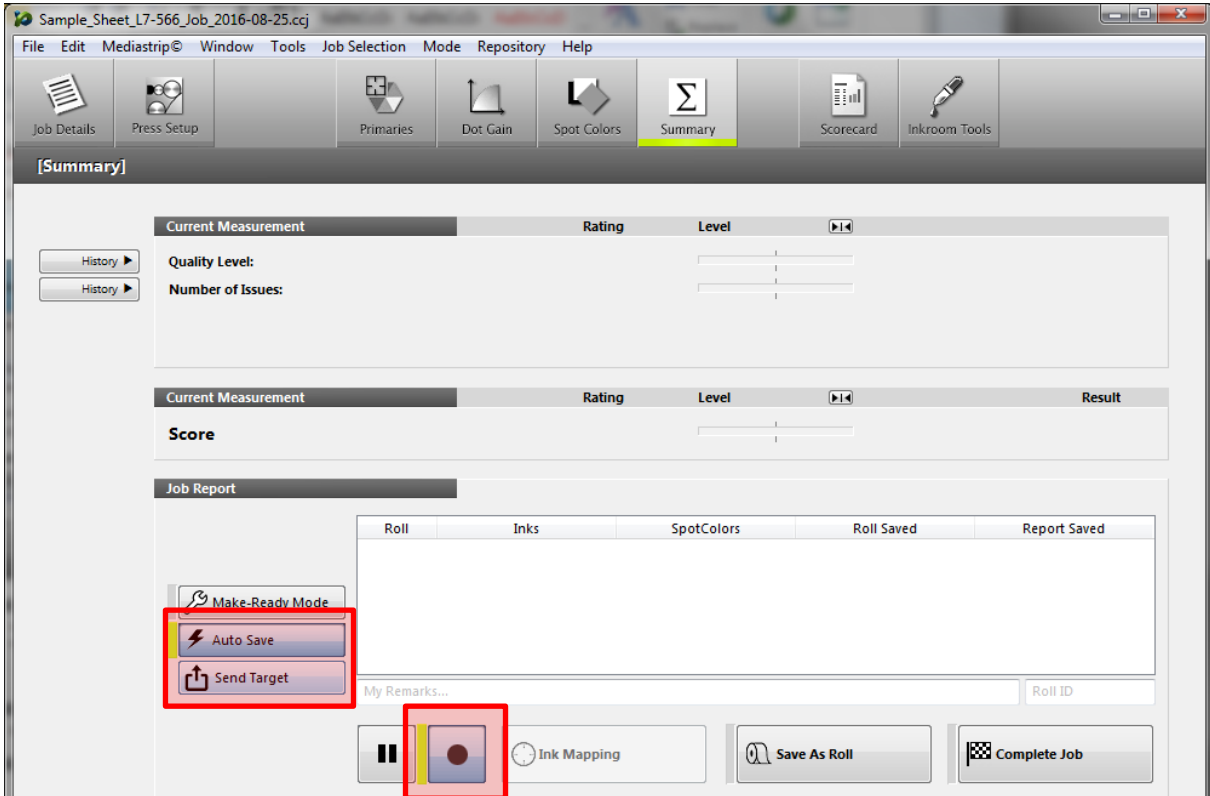| Parameters	Origin
Job Info Project name	IntelliTrax Template Name
Job Info Job name	ColorCert job file name
Measurement Mode	From ColorCert Profile
Illuminant Observer	From ColorCert Profile
Density Status	From IntelliTrax Default*
Density White Base	From IntelliTrax Local Machine Configuration
Delta E Method	From IntelliTrax Local Machine Configuration
Solid Ink Name	Primary and Spot Color names from ColorCert
Solid Ink Density Target	Density of Primaries and Spot Colors from ColorCert
Solid Ink Density Tolerance	From IntelliTrax Default*
Solid Ink Density Filter	From IntelliTrax Default*
Solid Ink Lab Target	Primary and Spot Color Lab values from ColorCert
Solid Ink Delta E Tolerance	From IntelliTrax Default*
Tint Density Target	From IntelliTrax Default*
Tint Density Tolerance	From IntelliTrax Default*
Tint TVI Target	From IntelliTrax Default*
Tint TVI Tolerance	From IntelliTrax Default*
Substrate Name	Substrate name from ColorCert
Substrate Density Target	From IntelliTrax Default**
Substrate Density Tolerance	From IntelliTrax Default**
Substrate Lab Target	Substrate Lab values from ColorCert
Substrate Delta E Tolerance	From IntelliTrax Default*
Overprint Name	Created from Solid Ink Names based on combined ink units
Overprint Lab Target	Calculated from Solid Ink Lab Targets
Overprint Delta E Tolerance	From IntelliTrax Default*

* System Configuration Tool settings at the time the template was created. Changes to the System Configuration Tool will only have an effect if a new Template is created.

** There is no changeable target defined in the IntelliTrax System Configuration Tool, it is a hidden system default.
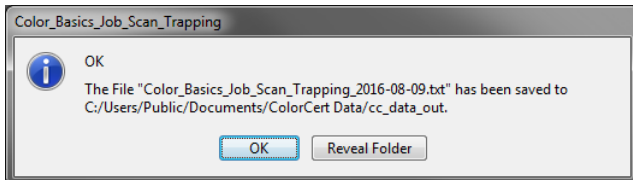
Job Workflow between ColorCert and IntelliTrax

Start the Job in ColorCert

1. In the **ColorCert Chooser** go to **Pressroom Tool** and load a job either directly as Job for Reprint or using the Job Setup Wizard.
For training purposes **Load Job for Reprint -> Sample_Sheet_L7-566_Job.ccj**
2. Select the **Summary** tab

- Click on **Auto Save**, so that all incoming data is saved in the background without operator interaction. Next to the button it will start flashing green.
- Click on **Start Recording**, so that any SVF files saved in the shared folder will be imported in ColorCert. Next to the button it will start flashing green.
- You are asked to **Save the job**, if you have not done so.
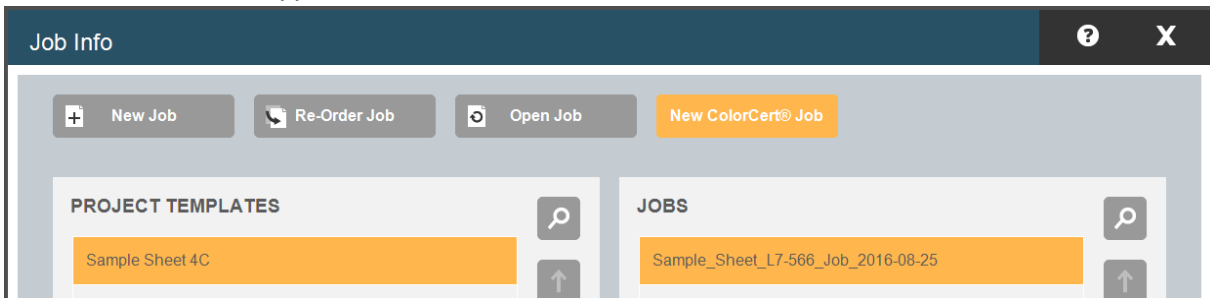- Click on **Send Target**

ColorCert only keeps the latest job that has been exported as a .txt file in the shared folder. Previously exported .txt files are moved into the cc_backup folder.
Optional: When you click on **Reveal Folder** the folder opens for reference.
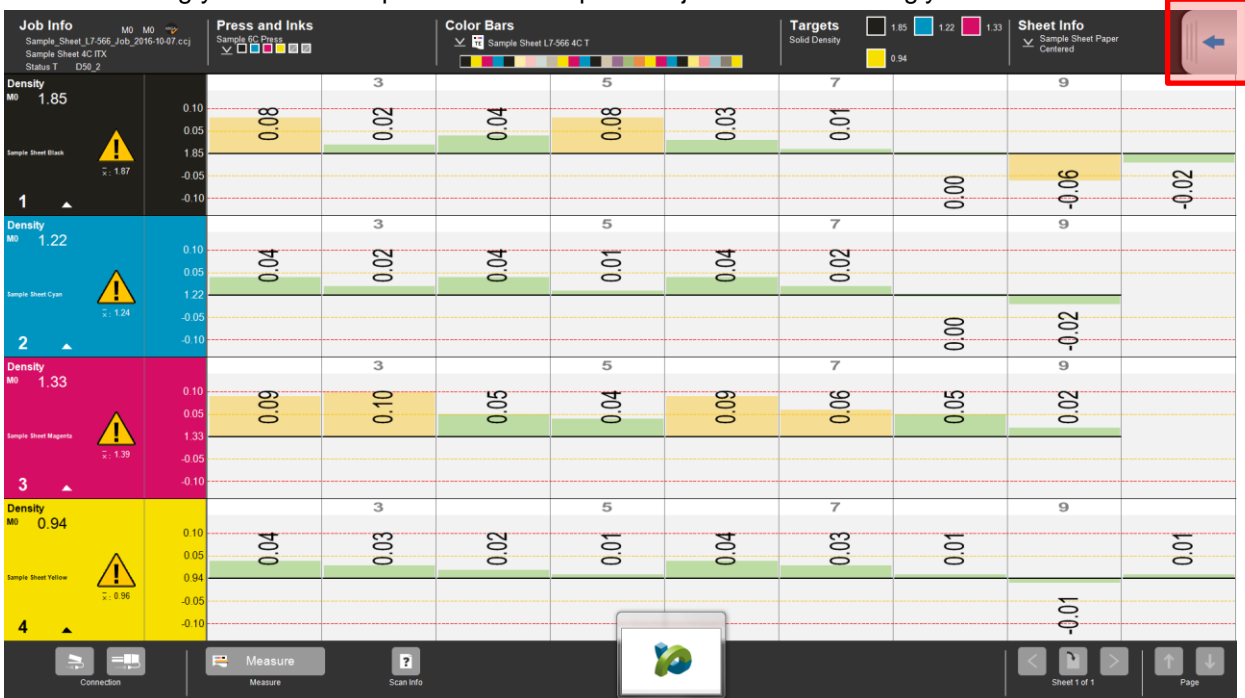- Click **OK**

Start the Job in IntelliTrax

1. In the **IntelliTrax Launcher** select **Press Tool**.
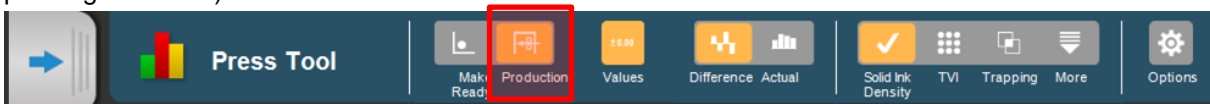2. The **Job Info** window appears

- Click **New ColorCert Job**
- Under **Project Templates**, select the Project Template that you want to use for this job, for example **Sample Sheet 4C**.
- Under **Jobs** you see the ColorCert job file from the shared folder, for example **Sample_Sheet_L7-566_Job_xxxx-xx-xx**. Select this file.
- If this job already exists, a message asks you if you want to overwrite it.
- As soon as the job has been created the txt file from the shared folder is deleted.

You can also create new jobs in IntelliTrax that have not been created from a ColorCert job file. In this case you might not have the same ink names and targets in both systems but you can still import the SVF files into ColorCert as long as the job preparation rules above are followed.

3. Start measuring your sheets off press and make press adjustments accordingly.

4. Optional: move the **App Switcher** button to a location where it doesn't overlap any important information.
5. After Make Ready, switch to the second menu on the tool bar (in the top right corner click on the arrow pointing to the left) and click on **Production**

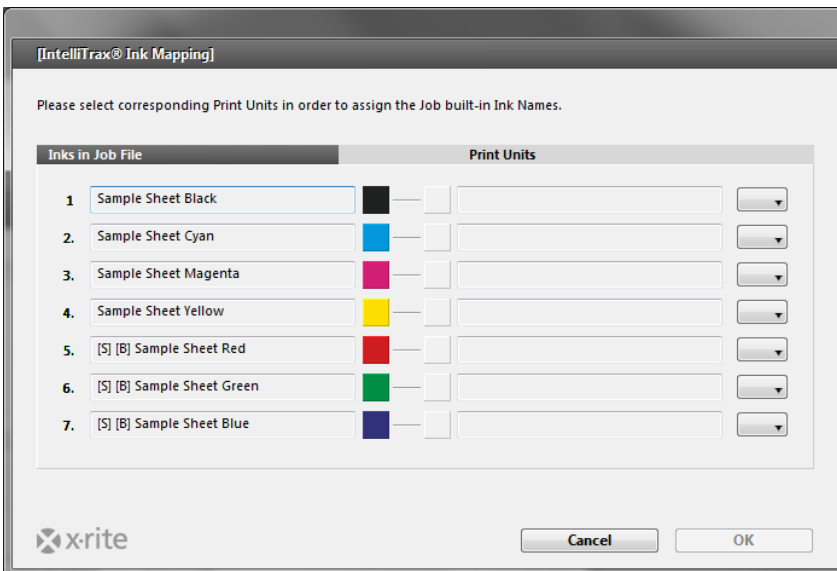6. The next measurements are saved as a SVF file in the shared folder in the background.

Receive Measurements in ColorCert

1. Click the **App Switcher** button to bring the ColorCert Window to the front.
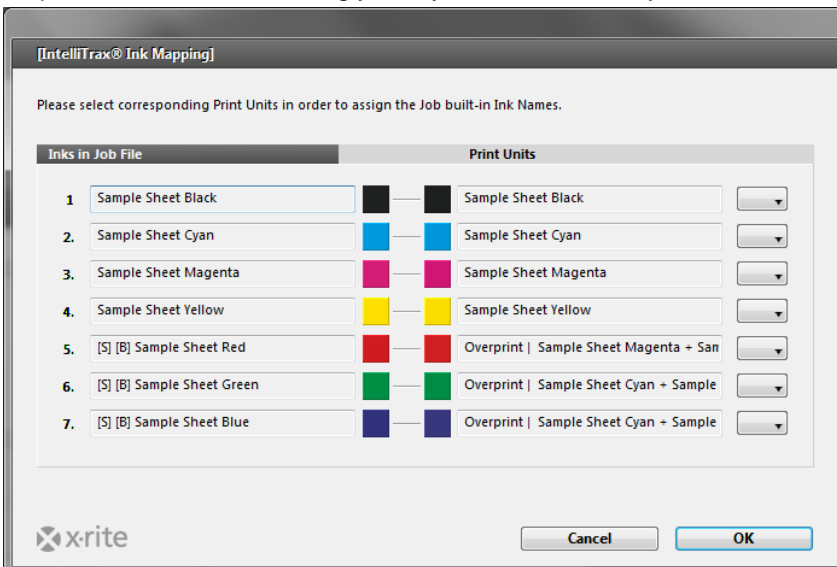

Note: Click straight into the middle of the button. If you only click on the window frame of the button, you just activate the window. If you have an established eXact connection the App Switcher button has an area that allows you to connect and release the eXact (highlighted blue connection). This is not required in this workflow with IntelliTrax. Just click anywhere else in the button to bring ColorCert to the front.

2. If not all ink names are matching between the ColorCert job and the SVF file from IntelliTrax an import message and the **Ink Mapping Window** will appear.
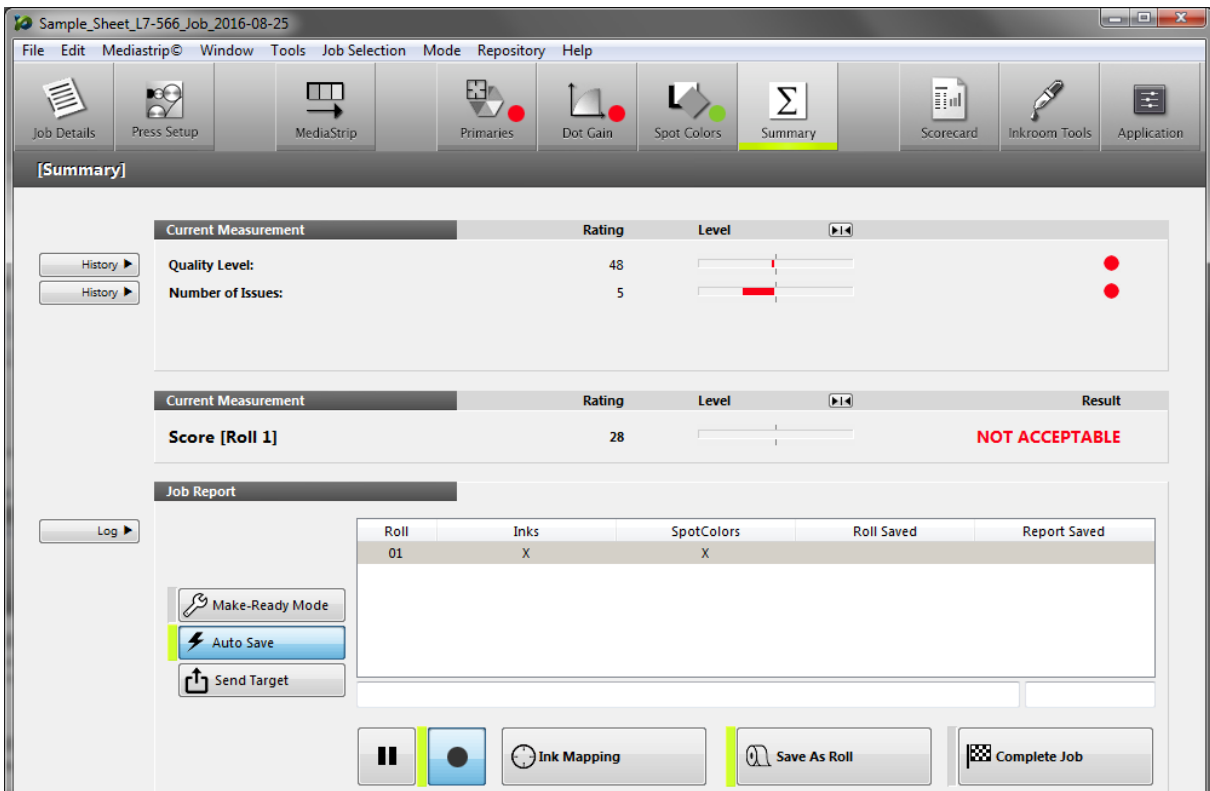

In this case the trapping ink names from ColorCert will not match the names coming from IntelliTrax. You have to map all inks to proceed.

3. Map the ink names accordingly. They are saved in the job and do not appear again.

4. Click **OK** in the Ink Mapping window and **Close** in the import message.
5. As the IntelliTrax Color Bar usually has more than just one patch of each kind, ColorCert calculates averages. The resulting values are allocated to the relevant checks in the ColorCert job and rated as usual.

If the first measurements have been received correctly and you have the Auto Save option enabled you do not have to return to ColorCert. The SVF files are imported automatically in the background.

6. At the end of the job on press close the IntelliTrax job.
7. Return to ColorCert and click **Complete Job**.
8. The job scores are uploaded to the ScoreCard server if it is defined in the ColorCert Rules.

Note: If entries are missing in the SVF file that ColorCert requires for scoring you will get an import message informing you about the missing entries. These messages open in front of ITX and stay open just for a few seconds. You can only correct this, if you make sure the job preparation rules are followed and all patches are measured correctly in IntelliTrax.