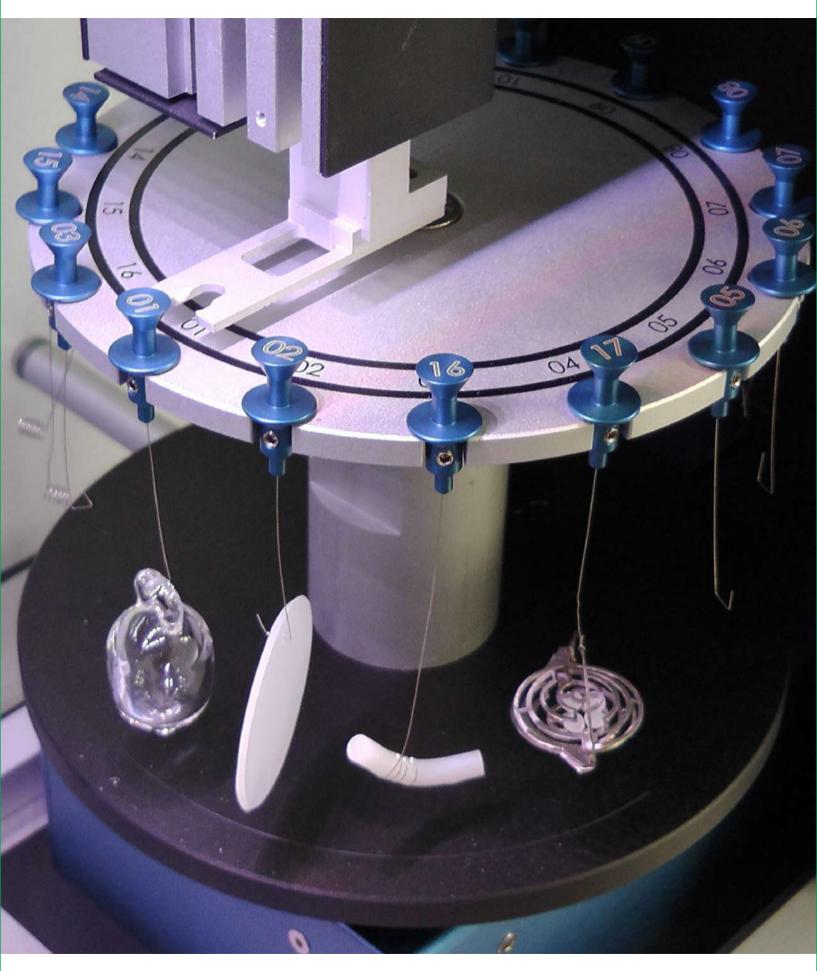


## **MVS2proDENSITY** The Automatic Determination of the Volumic Mass

Reliable • Reproducible • Certifiable







www.ortellitechnologies.com







### Data Sheet

**MVS2pro** is a robotized system for the determination of the Density or the Standard Absolute Volumic Mass (MVS) of polymers by the principle of the Hydrostatic Push opportunely corrected in order to obtain the result expressed in the MV (S) unit.

**MVS2pro** determines the Volumic Mass in a completely automated cycle that replaces the old system used for this measure (Gradient Columns), that was characterized by typical human errors and slowness in measurement.

**MVS2pro** System is perfectly integrated in the quality Standard Process ISO9001. It's already supported by all the control procedures for the carried out measures using five different kinds of Standard:

- 1 certified Density Standard
- 1 certified Mass Standard
- 1 certified Volume Standard
- 1 polymer standard
- 1 standard Temperature (certificated thermometer)

All integrated in a statistical plan of controls to check the validity of the analytical determinations of the samples.

**MVS2pro** has an Autosampler with a maximum of 16 samples and/or Standard of density mass or volume. The system makes the measure of a sample in about than 120 sec.

**MVS2pro** constantly controls the Temperature to which it comes carried out the measure to have the certainty that will be respected the range of working set in the method.

This **Pt100 probe** can be calibrated using the procedure from the management software with a Corporate primary standard for comparison.

**MVS2pro** was born for the determination of MVS on **High Density Polyethylene (HDPE)** but it is obviously usable for the same kind of determination with other kind of materials can be **analyzed with the method of the hydrostatic push**. Integral control of the **MVS2pro** system takes place via LAN from a software console, included in the price, that is installed on a PC in the corporate network (or, if necessary, with a direct connection to the PC).

The software console allows you to control the system and keeps DB archive of all historical data and all the measurements made to obtain it. It is possible to recalculate archivied data with other types of applications like Excel, Access and transfer them directly to LIMS.





## **Technical Data**

- Model: MVS2pro
- **Reproducibility:** < 0.01%
- Range of Temperature: from 10°C to 50°C (usually 23°C)
- Medium Time of Analysis: 120 s/sample
- Sample dimensions: diam. approx 4 cm
- Autosampler: 16
- The System MVS2pro is compliant to the ISO1183-1, ISO2781, ASTM D792, ISO 4591 and ISO 293 for sample preparation



#### Accessories (required)



## Support samples series are available in four colors:

Blue, Gold, Green and Red.



Watch the Video!

#### **Basket Support samples**

# -

#### MODEL A

The kit is composed by 20 basket supports. In the perforated basket support you can include some polyethilene spheres or other material like fragments of glass or precious stones (diamonds). These kits can becombined in various ways accordingly to your needs.

#### Helicoid form Support sample

#### MODEL B



The kit is composed in this way: 20 Helicoid form supports. This kind of supports are suitable to be used with cylindrical forms. (for e.g. the same polyethylene samples forms measured with Gradient Columns)

#### Hook form Support sample



#### MODEL C

The kit is composed in this way: 20 Hook form supports. This kind of supports are suitable to be used circular pressed disks with a hydraulic press.

#### Self-Sinking Support sample



#### MODEL D and MODEL E

The kit is composed in this way: 20 Self-Sinking Sample supports. This kind of supports are suitable to be used with circular pressed disks. This support type allows you to measure samples which has a density higher than the measure liquid ones, thanks to the support structure that allows the sample to "float" in the solution.





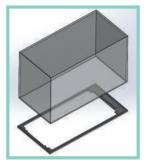
#### Sinking form Support sample



MODEL F and MODEL G

The kit is composed in this way: 20 Sinking forms supports. This kind of supports are suitable to be used with circular pressed disks. This support type sinks samples, which has a very low density in relation to the solution ones, allowing to measure density also in this case.

#### **Glass Cover Wind Protection Assy**



Device perfectly compatible with the MVS2pro system allows to protect the balance from interference for example air displacements inside the laboratory, allowing a better stabilization of the balance.

#### **Thermostatic Bath**



System of thermostatation for the beker (beker thermostatable). It allows the maintenance of the liquid measurement at the temperature described in the method. The system has a suction pump to recirculate the thermostated liquid in an external circuit and it is directly controlled by MVS2pro via USB.

#### **Mettler Analytical Balance**



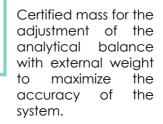
Analytical Electronic Balance with underplane support weight to position the support sample in the measurement area of the MVS2pro. The balance suggested is 5 decimal places in grams like: MS, XSR, XPR series (d= 0,01 mg). The Balance is directly controlled by MVS2pro via USB

#### **Certified Density Standard and Mass**



**MVS2pro**Density





#### PC (keyboard+mouse+monitor)



OS: WINDOWS10 with pre-installed MVS2pro Density Manager Software

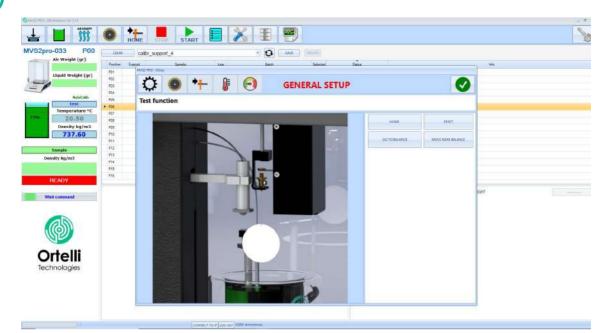


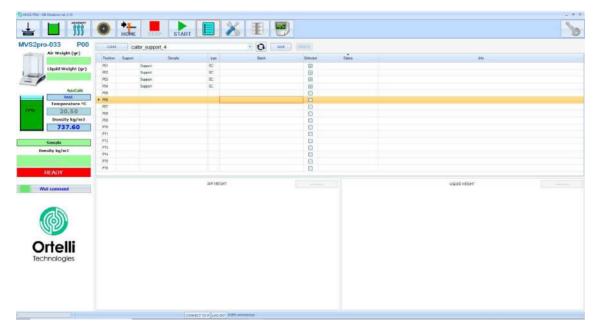
## Solid density measurement methods comparison (focus on MVS2pro Density System)

|                             | GRADIENT COLUMN<br>method  | IMMERSION method<br>with MVS pro system   | LIQUID PYKNOMETER<br>method  | TITRATION<br>method   |
|-----------------------------|--|---|--|---|
| Certified<br>Reference      | Little glass<br>sphere<br>~ 5 mm<br>Density range<br>0,85 ÷ 2,3 g/cm <sup>3</sup><br>Volume ~ 65 mm <sup>3</sup> | Glass ampoule<br>~ 40 mm<br>Density ~ 1,2 g/cm <sup>3</sup><br>Volume ~ 7.500 mm <sup>3</sup><br>100 times bigger!  | Pycnometer<br>~ 50/100 ml<br>Density need to be<br>calculated each time,<br>since it varies over<br>time due to thermal<br>expansion   | <b>Burette</b><br>~ 25 ml<br>Volume ~ 0.05cm <sup>3</sup><br>Very difficult to<br>realize and not so<br>much used           |
| Sample<br>Shape<br>Analysed | <b>Irregular cylinder</b><br>like of the same size<br>as the certified<br>standard.                              | <b>Disk</b><br>whose dimensions are<br>not linked to specific<br>reference standards.<br>therefore it can also<br>have much larger<br>dimensions than those<br>of the sample used in<br>gradient columns. | Granules or flakes<br>in whatever form they<br>are received, however<br>their mass shall be in<br>the range from 1g to<br>5g. Mostly used for<br>measuring "apparent<br>density" | Void-free forms   |
| Sample<br>Preparation       | <b>Melt Index</b><br>The sample<br>preparation doesn't<br>follow any standard<br>procedure                       | It follows the ISO 293<br>it uses standard<br>sample production   | No sample preparation procedure  | <b>Void-free forms</b><br>The sample<br>preparation doesn't<br>follow any standard<br>procedure                             |
| Standards                   | ISO 1183 -2  | ISO 1183 -1 A   | ISO 1183 -1 B  | ISO 1183 -1 C   |
| Type of<br>measurement      | Indirect<br>by curve<br>interpolation  | <b>Direct</b><br>by direct<br>measurement of<br>the sample  | <b>indirect</b><br>by comparing the<br>internal volume weight<br>with and without the<br>sample  | <b>Direct</b><br>but with a Mix of<br>liquids changing<br>continuously.<br>It's difficult to define<br>the end of titration |
| measuring<br>Liquid         | <b>Mixture</b><br>of substances with<br>different densities  | Pure liquid<br>of known density<br>measured continuosly   | Pure liquid<br>of known density  | Solution<br>of different liquids  |
| Time<br>Analysis            | Hours  | <b>120 s/sample</b><br>(6-9 samples/40 min)   | Hours  | Hours   |



## Our Density Management Software





Easy and immediate method setting up to 16 samples (including the use of templates predefined by the manager).



| Air Weight (p)   Service   Service   Bin   Mode     2,24641   6   00   Revel Cervicy (RCL02 (pics))     2,4317   Hold Service   6   00     2,4317   Hold Service   6   00     2,4317   Hold Service   6   00     100   Hold Service   64   000     2,4317   Hold Service   64   000     100   Hold Service   64   000     100   Hold Service   100   100     100   Hold Service   100   100     101   Hold Service   100   100     102   Hold Service   100   100     103   Hold Service   100   100     104   100   100   100     105   100   100   100     104   100   100   100     104   100   100   100     104   100   100   100     104   100   100     104   100 <th>246431<br/>Weight (y)       Retor       Secon       Back       Becker       Back       Becker       Back       Med         Valght (y)       Pid       Ed       Superit       SC       Image: Status to the s</th> <th></th> <th>CLEAR</th> <th></th> <th></th> <th></th> <th>• 0</th> <th>SAVE DELETE</th> <th></th> <th></th> <th></th>  | 246431<br>Weight (y)       Retor       Secon       Back       Becker       Back       Becker       Back       Med         Valght (y)       Pid       Ed       Superit       SC       Image: Status to the s  |               | CLEAR    |               |        |          | • 0   | SAVE DELETE |            |                              |       |
|---|--|---------------|----------|---------------|--------|----------|-------|-------------|------------|------------------------------|-------|
| Uiged Wight (p)   PA   B01   Samet   S0   Implementation (Control (Contro) (Contro) (Control (Control (Contro) (Control (Contro) (Control   | Weight opp<br>AB177       RP       E0       Sauer       S2         AB177       R0       E0       Sauer       S2         AB177       R0       E0       Sauer       S2         Main Autor       R0       E0       E0       E0         Main Autor       E0       E0       E0       E0       E0         Main Autor       E0       E0       E0       E0       E0       E0         Main Autor       E0       E0       E0       E0       E0       E0       E0         Main Autor       E0       E0       E0       E0  |               | Position | Support       | Sample | type     | Batch | Selected    | Status     | Info                         |       |
| 2.43177   Pite Bill Namet   S   Difference   Berrit Densy (K.O.B.rgin)     Mark Calles   Pite Bill Namet   B   Berrit Densy (K.O.B.rgin)     Mark Calles   Pite Bill Namet   B   Berrit Densy (K.O.B.rgin)     Pite Bill Namet   B   B   B     Pite Bill Namet   B  | A3127 Per Bi J Street 52<br>Per Bi J Street 54<br>AcCAS Per L<br>Per L              |               |          | 1 Sup         | pport  |          |       |             |            |                              |       |
| AutoContinue   Pile   Diversion   Diversion   Diversion   Diversion     March AutoContinue   Pile   Pile   Pile   Pile   Pile     Transportations   Pile   Pile   Pile   Pile   Pile     Table   Pile   Pile   Pile   Pile <t< td=""><td>Calculation of the second seco</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | Calculation of the second seco   |               |          |               |        |          |       |             |            |                              |       |
| Aucline       Production   | Accel res 22,27 % res 1 % res  |               |          | 5 507         | mple   | 84       |       |             |            | Sample Density 954,404 Kg/m3 |       |
| Transmission       Transmissinteraconteanteraconteraconteraconteranteranteraconteraconteraco  | ipped to with a second secon  |               |          |               |        |          |       |             |            |                              |       |
| Tengenaria   AR HEDHT   3,24641     23,245   24,112     24,112     24,112     24,112  | ARMBORT       2,24641       U2UDHEDHT         2,2483       2,2483       2,4112       4,4112         2,2483       2,2483       4,4112       4,4112  |               |          |               |        |          |       |             |            |                              |       |
| 22,27   P8   P8   P8     Peshykymin   P8   P8     P8   P8   P8     P8   <   | 22,27 po<br>po<br>po<br>po<br>po<br>po<br>po<br>po<br>po<br>po   | emperature °C |          |               |        |          |       |             |            |                              |       |
| Density g/m3   99   99   99     737,90   99   99     99   99   99     99   99   99     99   99     99   99     99   99     99   99     99   99     99   99     99   99     90   99     91   90     92   90     93   90     94   90     94   90     95   90     96   90     97   90     90   | Interview       Interview <t< td=""><td>22,27</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>   | 22,27         |          |               |        |          |       |             |            |                              |       |
| 737,90   P0   P1     mml   P1   P1     P2   P1     P2   P1     P2   P1     P2   P1     P3   P1  | 37,90   P0   0     P1   P1     P2   P1     P2   P2     P3   P2     P3   P2     P4   P3     P4   P4     P4   P4 <tr< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>   |               |          |               |        |          |       |             |            |                              |       |
| ADV       All Hebart       2,419       LQUOWEGHT         3,2464   | Image: State of the state o  |               |          |               |        |          |       |             |            |                              |       |
| mate   1   1   1     y to y/r3   4,40   1   1     Ay,40   1   1   1     Mixing (S10)   3,2464   2,4319   2,4319     3,2464   3,2464   4,400   1     3,2464   3,2464   1   1     3,2464   3,2464   1   1     3,2464   3,2464   1   1   | Image: Product of the second  | 131,00        |          |               |        |          |       |             |            |                              |       |
| Pri/al   Pri/al   Pri/al     Pri/al   Pri/al   Pri/al     Pri/al   Pri/al   Pri/al     Pri/al   Pri/al   Pri/al     AUY   Pri/al   Pri/al     A   | Image: mail in the second s  | unter .       | P12      |               |        |          |       |             |            |                              |       |
| PAD       P4       Image: Constraint of the second seco   | PH       PH       PH         PH5       PH5       PH5         S2485       S2485       PH5         S2485       S2485       PH5         S2485       S2485       PH5         S2485       PH5       PH5         S2485 <td< td=""><td></td><td>P13</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>  |               | P13      |               |        |          |       |             |            |                              |       |
| All?       P8       Image: Control of the second   | Pit       Usure (E17)       Jake       Usure (E17)         3,2465       3,2465       2,419       2,419         3,2467       2,419       2,419       2,419         3,2468       3,2469       2,419       2,419  |               | P14      |               |        |          |       |             |            |                              |       |
| All?       P8       Image: Control of the second   | Pit       Usure (E17)       Jake       Usure (E17)         3,2465       3,2465       2,419       2,419         3,2467       2,419       2,419       2,419         3,2468       3,2469       2,419       2,419  | ,40           | P15      |               |        |          |       |             |            |                              |       |
| All Hight   3,24641   UQUDHEGHT     3,2464   3,24641   UQUDHEGHT     3,2464   3,2464   4,419     3,2464   4,419   4,419     3,2464   4,419   4,419     3,2464   4,419   4,419     3,2464   4,419   4,419     3,2464   4,419   4,419     3,2464   4,419   4,419     1,24176   4,419   4,419  | All (S1D)   ARNEDHI   3,24641   UQUINEEHI     3,2465   3,2465   2,419   2,419     3,2465   3,2466   2,410   2,410     3,2465   3,2465   2,410   1     3,2465   3,2465   1   1  | -             | P16      |               |        |          |       |             |            |                              |       |
| 2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,  | 2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2,419<br>2, |               |          |               |        |          |       |             | _          |                              |       |
| 3,2466<br>3,2462<br>telli 3,2469  | 2,24316<br>2,24316<br>2,24316<br>2,4316<br>2,4316<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4317<br>2,4   | sasure (STD)  |          |               |        | ARTIDORI |       | 3,24041     |            | DIGOLOWEISH                  |       |
| 3,2466<br>3,2460<br>3,2460<br>1,2430<br>1,2430<br>2,4310<br>2,4310<br>2,4310<br>2,4310<br>2,4310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24310<br>1,24  | 2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310<br>2.4310   |               | 3.2465   | ' <del></del> |        |          |       |             | 2,4319     |                              |       |
|   | 3,2662       2,4312       2,4312         Spies       3,2653       2,4312       2,4312  | mmond         |          |               |        |          |       |             |            |                              |       |
|   | 3,2662       2,4312       2,4312         Spies       3,2653       2,4312       2,4312  |               |          |               |        |          |       |             |            |                              |       |
|   | 2,4170 2,   |               | 3,24646  | <i>i</i>      |        |          |       |             | - 2.43186- |                              |       |
|   | 2,4170 2,   |               |          |               |        |          |       |             |            |                              |       |
|   | 2,4170 2,   | 2011          |          |               |        |          |       |             |            |                              |       |
|   | ngies  | 9             | 3.24642  |               |        |          |       |             | 2,43182    |                              |       |
|   | ngies  |               |          |               |        | 1        |       |             |            |                              |       |
|   | ngies  |               |          |               |        |          |       |             |            |                              |       |
| vologies  |  |               | 3.24638  | 1             |        |          |       |             | 2,43178    |                              | ****< |
|   |  |               |          |               |        |          |       |             |            |                              |       |
|   | 3,24534 2,43174  |               |          |               |        |          |       |             |            |                              |       |
| 3,24534   |  |               |          |               |        |          |       |             |            |                              |       |

Fully automated sequence reading, including control tests and correct detection of measured parameters.

| Sho  | rt Meesures - Measure | s Samples Suppor | ts Liquid | Calibration Support Graph | ic .  |              |         |             |          |               |           |              |                |       |           |
|------|-----------------------|------------------|-----------|---------------------------|-------|--------------|---------|-------------|----------|---------------|-----------|--------------|----------------|-------|-----------|
| ×    |                       |                  |           |                           |       |              |         |             |          | Measures - Gr | aphic Liq | dd - Graphic | Supports - Gra | pivic | iD Graph  |
|      | Date                  | Sample Code      | Туре      | Density (Kg/m3)           | Batch | Air Weight ( | pr)     | Liquid Weig | pht (gr) | Temperatu.    | Support   | User         | id_Graf        | •     | 10078     |
| •    | 04/12/2020 19:16:32   | SAMPLE_004_      | 54        | 1,169.050                 |       |              | 9.52723 |             | 3.25662  | 22.99         | 901       | edmin        | 10078          |       | GRAPH VI  |
|      | 04/12/2020 18:30:56   | SAMPLE_004_      | 54        | 1,158.769                 |       |              | 9.52720 |             | 3.25613  | 23.01         | Y01       | odmin        | 10073          |       |           |
|      | 04/12/2020 18:12:58   | SAMPLE_004.      | 54        | 1,168.698                 |       |              | 9.52720 |             | 3.25575  | 23.04         | 101       | edmin        | 10072          | 18    | GRAPH CLE |
|      | 04/12/2020 17:59:58   | SAMPLE_004_      | SA        | 1,168.919                 |       |              | 9 52723 |             | 3.25694  | 22.98         | Y01       | admin        | 10071          |       |           |
|      | 19/11/2020 15:58:29   | SAMPLE_004       | S4        | 1,169.184                 |       |              | 9.52716 |             | 3.25669  | 22.93         | Y01       | admin        | 10062          |       |           |
|      | 19/11/2020 15:41:05   | SAMPLE_004_      | SA.       | 1,159,188                 |       |              | 9.62721 |             | 3.25672  | 22.95         | 101       | nimbe        | 10061          |       |           |
|      | 19/11/2020 15:25:12   | SAMPLE_004       | SA        | 1,169 146                 |       |              | 9.52711 |             | 3.25648  | 22.95         | YD1       | odmin        | 10060          |       |           |
|      | 19/11/2020 15:08:53   | SAMPLE_004       | 54        | 1,169.085                 |       |              | 9.52718 |             | 3.25518  | 22.95         | Y01       | ədmin        | 10069          |       |           |
|      | 19/11/2028 14:43:49   | SAMPLE_004       | SA.       | 1,168.991                 |       |              | 9.52713 |             | 3.25565  | 22.96         | YD1       | admin        | 10058          |       |           |
|      | 18/11/2020 18:56:22   | SAMPLE_004.      | 54        | 1,169.051                 |       |              | 9.52708 |             | 3.25614  | 23.00         | Y01       | nimbe        | 10048          |       |           |
|      | 18/11/2020 18:40:47   | SAMPLE_004_      | SA        | 1,169.035                 |       |              | 9.52711 |             | 3.25606  | 23.00         | 101       | admin        | 10047          |       |           |
|      | 19/11/2020 18:19:22   | SAMPLE_004_      | SA        | 1,159.013                 |       |              | 9.52710 |             | 3.25594  | 22.99         | Y01       | admin        | 10046          |       |           |
|      | 18/11/2020 18:03:55   | SAMPLE_004_      | 54        | 1,159.036                 |       |              | 8.52712 |             | 3.25607  | 22.99         | Y01       | nimbe        | 10045          |       |           |
|      | 19/11/2020 17:49:16   | 5AMPLE_004.      | S4        | 1,168.973                 |       |              | 9.52711 |             | 3.25573  | 22.99         | YD1       | ađmin        | 10044          | +     |           |
| ld r | ec value              |                  |           | AIR WEIGHT                |       | 9.52723      | id rec  | value       |          |               |           | Linut        | WEIGHT         |       | 3.25      |
| 20   | 9527230               | 9.5273           |           |                           |       | 9.52725      | 20      | 3,256620    |          | 2567          |           |              |                |       | 3.23      |
| 19   | 9.527230              | 0.0275           |           |                           |       |              | 19      | 3.256620    | ಿ        | 230/          |           |              |                |       |           |
| 18   | 9.527230              | 9 52726          |           |                           |       |              | 18      | 3.256620    |          | 5665          |           |              |                |       |           |
| 17   | 9.527230 =            | 3.52726-         |           |                           |       |              | 17      | 3.256620 =  | 34       | 5966          |           |              |                |       |           |
| 16   | 9527230               | 9.52722          |           |                           |       |              | 16      | 3.256630    |          | 5662          |           |              |                | -     |           |
| 15   | 9.527230              | 9.52/22          |           |                           |       |              | 15      | 3,256630    | 3.4      | 5562          |           |              |                | -     |           |
| 14   | 9.527230              | 120202000        |           |                           |       |              | 14      | 3.256630    | 153      | 10000         |           |              |                |       |           |
| 13   | 9.527230              | 9 52718          |           |                           |       | 2            | 13      | 3.256630    | 3.2      | 5658          | -         |              |                | j.    |           |
| 12   | 9.537230              | 00000000         |           |                           |       |              | 12      | 3.256630    |          | 296005        |           |              |                |       |           |
| 11   | 9.527230              | 9.52714          |           |                           |       |              | 11      | 3.230639    | 32       | 5654          |           |              |                |       |           |
| 10   | 9.527230              |                  |           |                           |       |              | 10      | 3.256630    |          |               |           |              |                |       |           |
| 9    | 9.527230              | 9.5271           | 6         | 11 16                     | 2     |              | 9       | 3.256630    | 3        | 2565          | 6         | 1            | 1 1            | 0     | 21        |
| 8    | 9.527230 -            |                  | 0         | 11 16                     | 2     |              | *       | 3.256630 -  |          |               | b         | 1            | 9 <u>8</u>     | •     | 21        |

Control of all the set up and all the data analysis phases stored in the software database, including the graphs of the data taking in air and liquid.



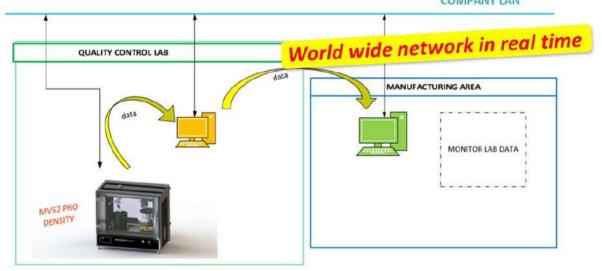
## FDA CFR 21 part 11 compliant

**MVS2pro's software** is compliant to the Food and Drug Administration's (FDA's) 21 CFR Part 11. This FDA's part is related to a strict control on **Electronic Records** and **Electronic Signatures**.



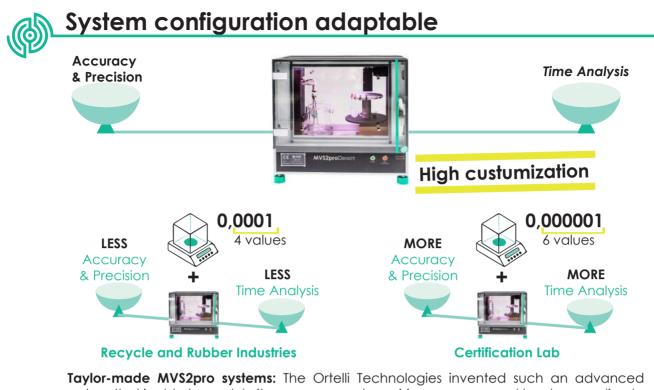


## MVS2pro Network Scheme



The system can be fully integrated within the corporate LAN with the ability to transfer analytical data to the areas of competence identified automatically. Anyone in your company can access with his own account and see all the data they are authorized to see in REAL-TIME wherever you are in just one click.





**Taylor-made MVS2pro systems:** The Ortelli Technologies invented such an advanced system that is able to module its accuracy and precision measurement level, according to whatever customer's needs. Thanks to a huge range of balance combinations possibility.



### **Online demonstration**



Virtual Room for Demo Live Webinar and custom demonstration on demand!





## Were we are around the World



We are present **ALL AROUND THE WORLD** with many Ortelli Technologies dealers.

Contact us directly and we will redirect you to the authorized Ortelli Technologies reseller closest to you!

## **Q** Headquarters

#### Ortelli Technologies s.r.l.

601 Pistoiese Street 59100 Prato PO Tel.: +39 0574 668301 E-Mail: info@ortellitechnologies.com

www.ortellitechnologies.com www.ortelli.it



Follow the accuracy on our social networks!

ortelli-technologies-s-r-l



MV\$4.801.06.REV01 2023, Maggio

**Ortelli Technologies s.r.l.** 601 Pistoiese Street 59100 Prato (PO) ITALY Tel.: +39 0574 668301 E-Mail: info@ortellitechnologies.com



Visit our webite www.ortellitechnologies.com

 $\square$ C



in **Linkedin** /company/ ortelli-technologies-s-r-l/

Watch the video