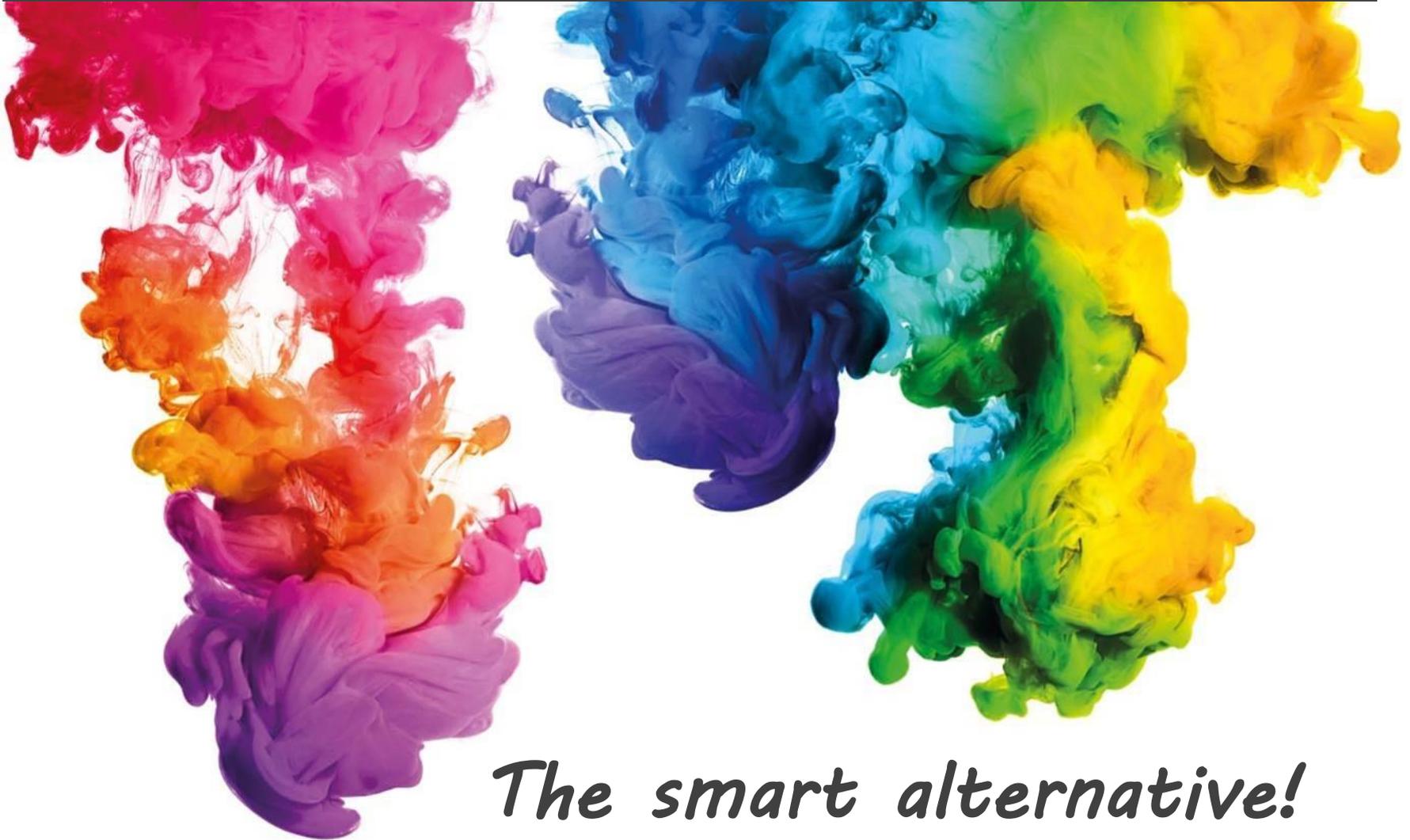
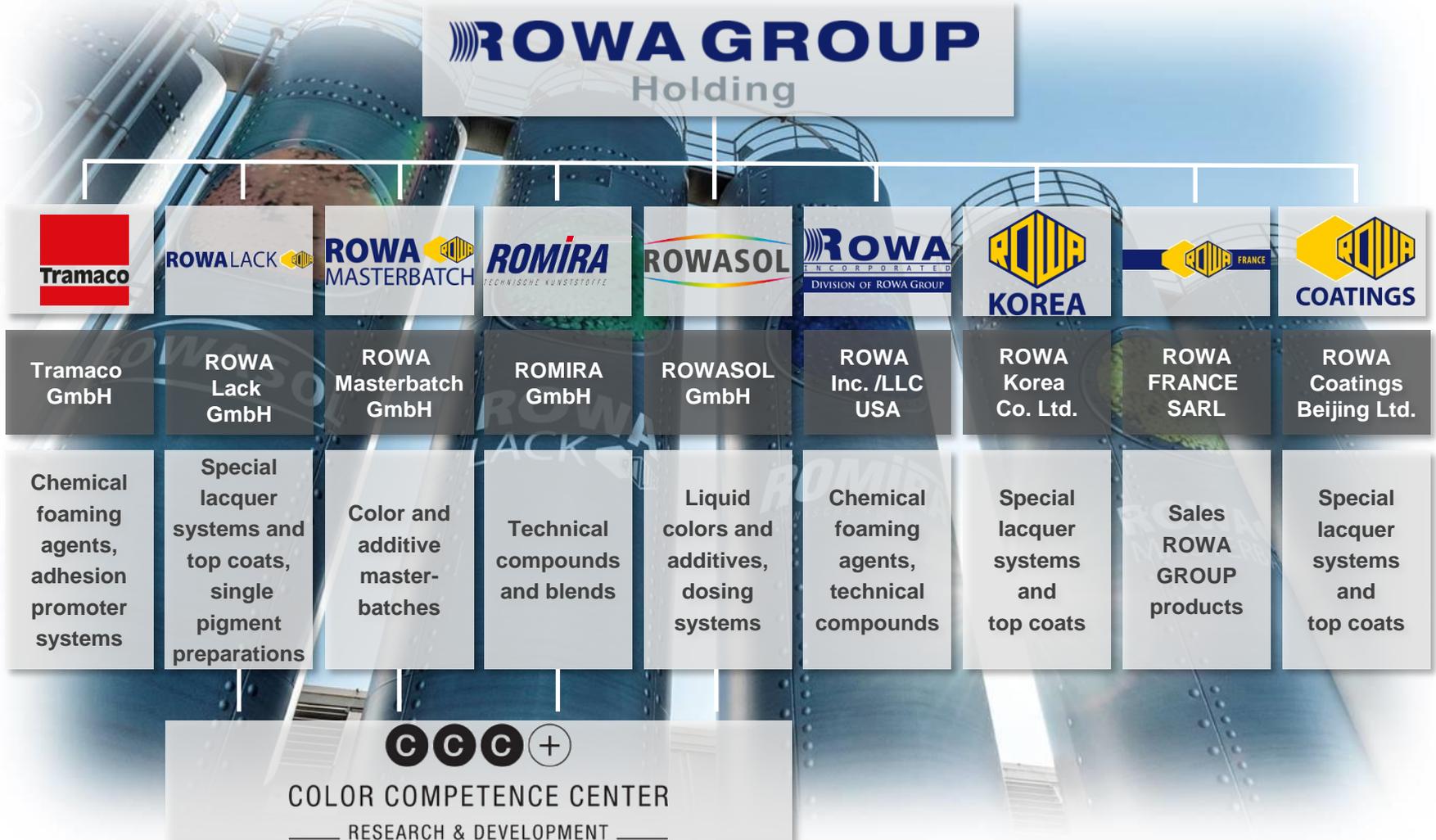




LIQUID COLORS & DOSING SYSTEMS



The smart alternative!





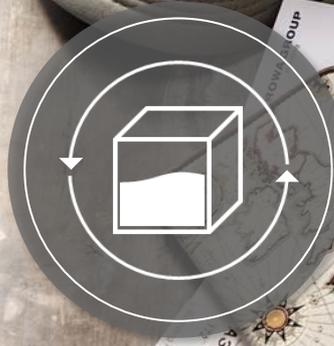
Liquid Colors



Additive Concentrates



ROWAMETRIC Dosing Systems



ROWASOL COLOR CUBE



Contract Manufacturing



Service Package

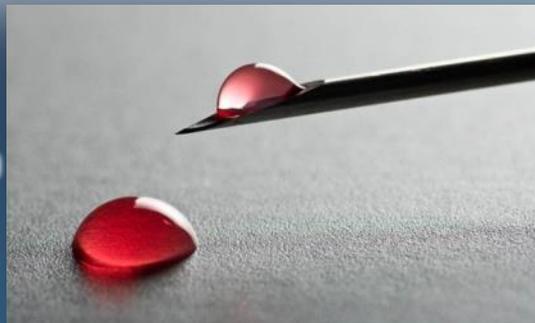
INTRODUCTION INTO LIQUID COLOR CONCENTRATES

COLORANTS



Pigments or soluble colorants

ADDITIVES



Disp. & rheol. agents, etc.

CARRIER



Universal or custom-designed

MIXING



High effective dispersing

LIQUID COLOR



High visc. to easy flowing



**Higher Color
Strength**



**Better
Distribution**



No Specks



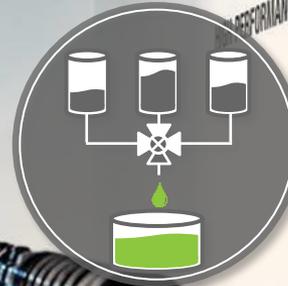
**Faster Color
Changes**



**Higher
Quality**



**Universal
Carrier System**



**Easy Self-
Coloring**



**Pressure
Injection**

SOLVENT-FREE

Without solvents or water

→ no drying out

STORAGE LIFE

Without perishable substances

→ theoretically storage life is eternal

SEDIMENTATION

After a couple of weeks phase separation can cause a transparent film on the surface and/or sediments

REFRESHING

Stable up to 4 – 6 month

→ stirring, shaking or tumbling before use is recommended

FOOD-APPROVAL

On request FDA, VO (EU) 10/2011 or BfR

→ Declaration of conformity

PROPERTIES

Theoretically it's a softener → practically no impact on product detectable at usual dosages of 0.5% – 2%

FUNCTION IN LIQUID FORM

- Light stabilizers
- Antistatic agents
- Lubricants
- Laser active substances
- Antioxidants
- Custom tailored products
- Combination batches (color + function)

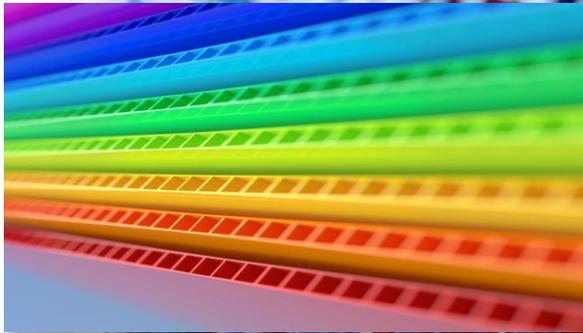


INJECTION MOLDING APPLICATIONS



- Thick-walled parts → possible saving on coloring costs, homogeneous colorization
- Thin-walled transparent parts → lower dosage, no specks, no streaks
- Hot runners → faster color changes (30 - 50 % less purging cycles)
- Engineering plastics (TPU, PBT, PA, ABS and the like) → lower raw material costs
- Commodities (PE, PP, PS) → reduced quantity of colorant
- Examples: PP pen tubes, TPU shoe soles, PE and PP caps, PC and ABS container, PS cutlery and many more

EXTRUSION APPLICATIONS



- **Films → no streaks and specks**
- **Compounds → efficient self coloring**
- **Profiles and fibers → Reduction of coloring costs**
- **Color injection downstream → time and material savings during color changes**
- **Examples: ABS edge bandings, engineering compounds, PP films, PVC flooring, PP fibers, HD-PE plates, filaments for 3D prints, PVC window profiles and many more**

LIQUID TO LIQUID



- **LSR** → Silicone oil as carrier, with approval for food contact if desired
- **PVC** → Softener can be used as carrier for liquid colors, thus 100 % compatibility
- **ROWA Resinate** for reactive resins → liquid colors can be pre-mixed in one of the components
- **Examples:** Epoxy resin systems, Silicone components, PVC flooring, acrylic plates, window profiles, exercise balls, integral foam, flexible foam, PU shoe soles, adhesives, sealing, boat fender, buoys and many more

MODULAR DESIGN: ONE CONTROL UNIT → 3 TYPES OF PUMPS



- **Pump Types:**
 - Peristaltic pump, 3- or 6-roller, 4 hose sizes
 - Progressive cavity pump, 4 sizes
 - Gear pump, 3 sizes
- **Operation Modes:**
 - Gravimetric (20/50 kg) or volumetric
 - Injection molding or extrusion
- **Number Pump Heads:**
 - One (standard) or two, incl. intermediate storage for continuous dosing
- **Accessories:**
 - Quick couplings, various container holders, pre-mixer, adapter plates, injection lances, alarm & flash light, Wifi module, software packages, floor scales for drum emptying, mobile tables, and much more



OPM Mechatronic, Hörstel, Germany: Single and double piston pumps for injection molding and extrusion applications, one piston-set per color



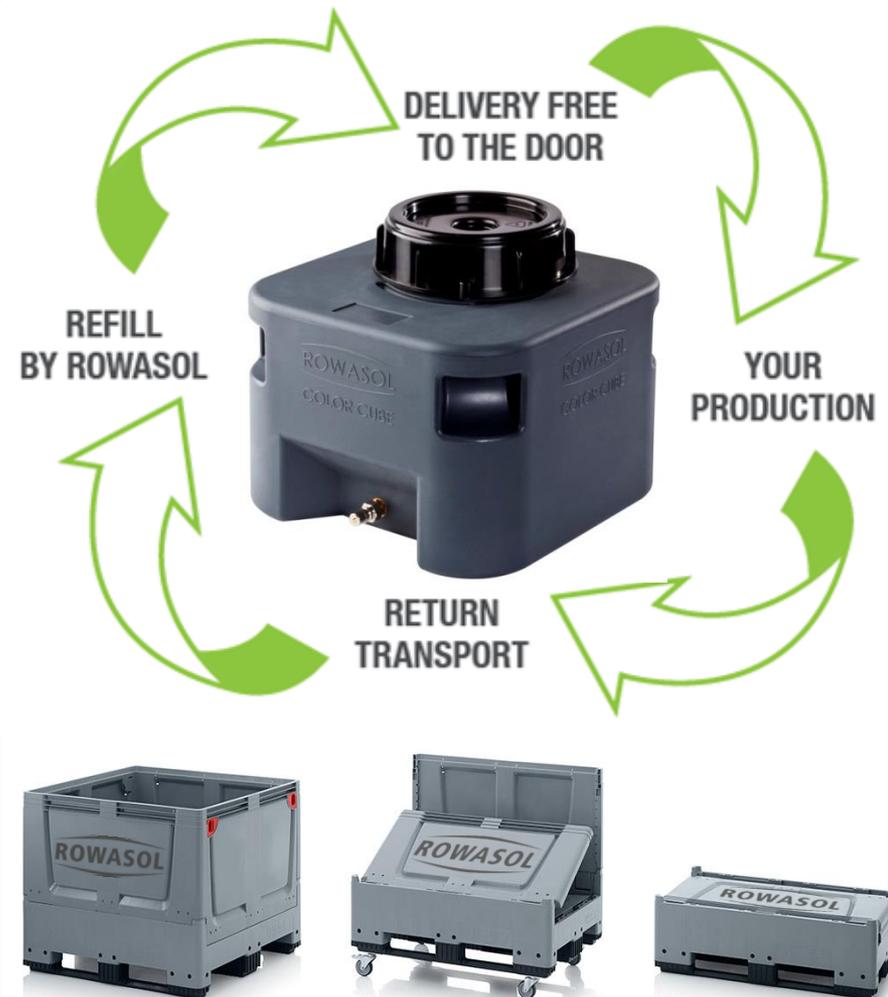
HNP Mikrosysteme, Schwerin, Germany: Micro annular gear pumps for injection molding applications, compact design, installation above the main hopper



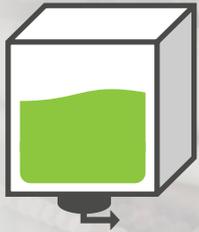
Oerlikon Barmag, Remscheid, Germany: High-pressure gear pumps for extrusion applications for injecting the color into the melt pipe up to 300 bar

THE RETURNABLE CONTAINER

- Perfectly matches ROWAMETRIC dosing systems
 - Also compatible with other pumps
 - Diaphragm valve for air exchange
 - Robust 22 liter HD-PE container
 - Stackable due to special design
 - Self-sealing-coupling at outlet
 - Closed system
 - Transport box for 12 cubes
-
- ✓ No contact to the color
 - ✓ No residual amounts
 - ✓ No waste



POLITAINER



**5 / 10 / 20 liter
„Bag in Box“**

BUCKET



**10 / 20 / 30 liter
„Hobbocks“**

BARREL



**200 liter
Steel barrel**

IBC



**640 / 1,000 liter
Intermediate Bulk Container**

**Of course we also offer to fill our products
into customer-specific packages!**

INITIAL INTERVIEW



Identifying the optimization potential and defining the project goals as well as discussing the eligible ROWAMETRIC dosing system.

COLOR MATCHING



Development of one or more colors according to customer's specification, profitability analysis and production of samples.

FIELD TEST



Free presentation of the matched color together with the fitting dosing system at the customer's production plant.

FOLLOW-UP SERVICE



Excellent support during the changeover to liquid coloring, e.g. the setup of a color portfolio or the installation of the dosing equipment.

A photograph of a modern, industrial-style office interior. The room features a high ceiling with exposed metal beams and ductwork. The walls are a mix of white and brick. There are large windows with black frames and blinds. The floor is polished concrete. In the center, there is a long wooden conference table with several black office chairs around it. A semi-transparent white box is overlaid on the center of the image, containing the text "THANK YOU VERY MUCH FOR YOUR INTEREST!".

**THANK YOU VERY
MUCH FOR YOUR
INTEREST!**