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Value Addition to Leathers in High End Applications



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what is precious to you?

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Table of Contents

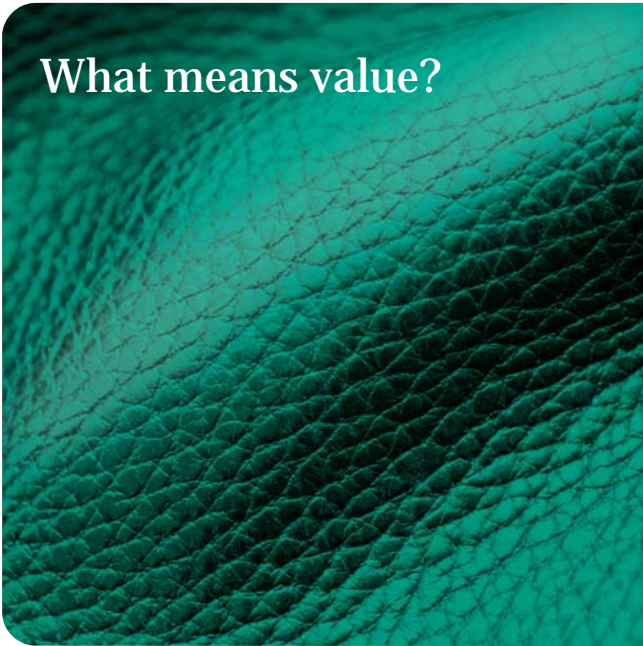
- What means value?
- Today's Market Demands
- Examples of value addition to leather
- ConclusionThe future of Leather

What means value?

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What means value to you?

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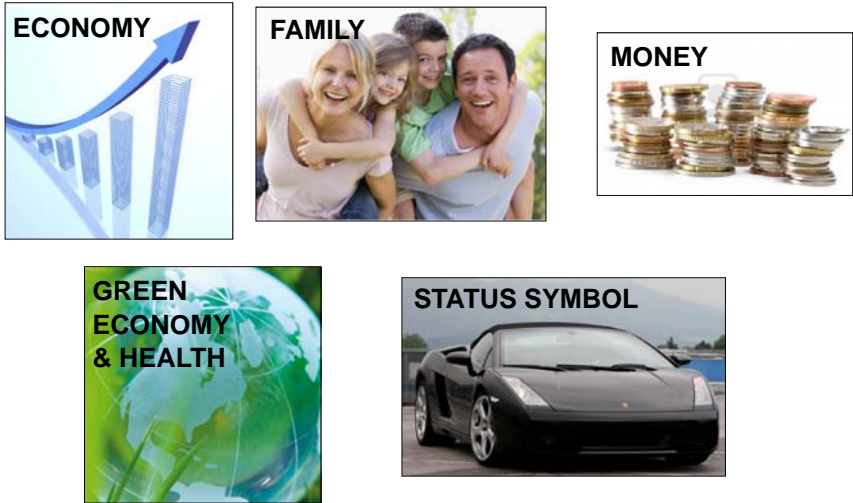
ECONOMY

FAMILY

MONEY

GREEN ECONOMY & HEALTH

STATUS SYMBOL



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What means valuable leather?



Today's Market Demands

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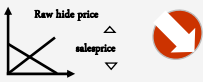
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Nowadays situation...

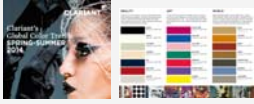
*Important factors to consider when talking about **Value add to Leather***

Raw-Material...  **Availability of good quality Hides and Skins are limited....**


Devaluation of Leather sales prices...




Performance Trends & Fashion




Enforced ecological regulations and quality standards...



Sustainability



Differentiation



+


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Sustainability – We think green

Our main focus is to develop **sustainable and environmentally friendly product innovations**. These innovations for example, **help to avoid waste, make processes more efficient and save resources** like water and energy whilst of course adding value to leather.

- **Life-cycle thinking** regarding our business activities, products, processes and services
- **Mission**
Protection of human, environmental and ecological health without compromising on performance and efficiency



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Individualism & Differentiation

The way to succeed in a challenging business world

How to differentiate ?

- Offering new solutions and options
- Having an alternative
- Having "something" new
- Generating new functionalities

Luxury Brand goods

Goods on mass-market

Individualism

- Individual leather design optics (laser etc.)
- Tailor made Solutions
- Fashion/Trends
- Cooperation with brands
- Natural leathers in Auto
- Antisoiling in bags
- Environment friendly systems

New sustainable value creation from Clariant

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Easy White Tan – A Fundamental Advance in Tanning Technology



Easy White Tan with Granofin® Easy F-90

Granofin® Easy F-90 is a new patented tanning system. Compared with existing systems, Easy WhiteTan offers a green perspective with the following advantages:

- Leaner process
 - Less production steps
 - Less chemicals
- Cleaner process
 - Substantial salt reduction
 - Cleaner effluents
- Safer process
 - Simple processing
 - Reliable process



ICIS innovation awards 2011: rewarded with special mention within the ICIS Environmental Benefit Award

Environmental benefits of EasyWhite Tan

ICIS innovation awards 2011, rewarded with special mention within the ICIS environmental benefit award



Water: Less water is needed during tanning and can be used directly into the liming stage

Energy: Less energy is needed due to shorter process, as well as the reduction of chemicals from normally 6 to only one

Salt: No additional salt is needed during the process, reducing the salt in the waste water by at least 80% during tanning

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Summary of key differences

- Reduction from 6 to 1 Chemical
- Considerable time reduction (20%)
- No salt needed (80%)
- No acid needed
- Less Water consumption (40%)
- Very stable and flexible production
- Less scope for processing errors

| |
|----|
| 80 |
| - |
| 40 |
| - |
| 20 |

Slide 13

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Environmental sustainability in retanning

| | | | |
|---|---|---|---|
| | | | |
| Vegetable | Syntans | Resins | Polymers |
| Natural source Differentiated characteristics Availability Speed of growth | Widely used Aromatic base (phenol and naphthalene). Formaldehyde condensation Wide range of performance, chemically and physically | Use for grain tightness and filling Urea – formaldehyde Dicyandiamide – Formaldehyde Melamine - Formaldehyde | Improve physical properties Polyacrylic and Methacrylic acid |

All four groups combined to create different types of leathers

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Environmental sustainability in retanning

Utilization of

- Renewable raw materials
- Recycling options
- By-products
- Biodegradable

Don't Use

- Restricted raw materials
- Phenol
- Formaldehyde




Best Practice

- Reduction of water utilization
- Efficient energy use
- Waste reduction

Tergotan® RN-2030 liq Bio polymer, to improve grain tightness, dyeability and milling effect


Tanikor® VN-2012 p Based on renewable raw materials, impart fullness and evenness across the hides

Tergotan® RN-2030 p Based on renewable raw materials to replace conventional syntans




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Aqueous Finishing Solutions Adding value and sustainability to Leather



... a demand from luxuries Brands



Aqualen[®] Top FL series
NEW GENERATION OF PURE
AQUEOUS TOP COATS FOR
SHOES, BAGS AND NAPPA'S

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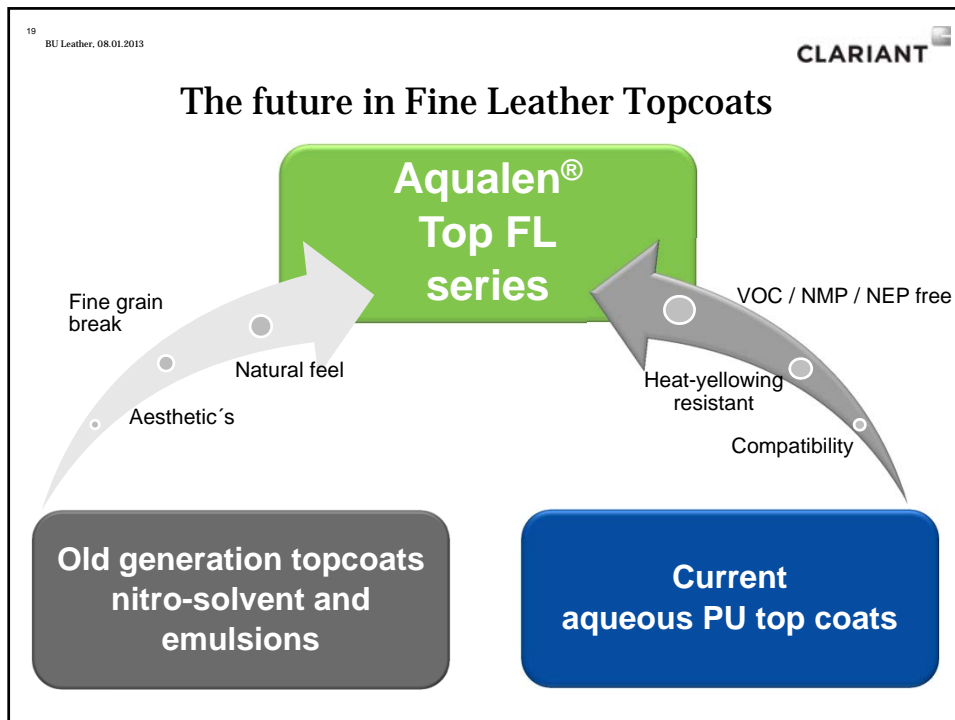
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Sustainable water borne Chemistry Advantages vs. old generation type products:

– (e.g. solvent based nitro / emulsion lacquers and / or water based products)


- Extended stability
- Pure aqueous, no NMP/NEP
- Superior heat-yellowing fastness
- Higher level of physicals when x-linked with Aqualen[®] AKU
- Elimination of solvent exposure to tannery workers and no solvent smell on leather
- Extensive reduction of emission in exhaust air
- Meeting demands from designer brands




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New generation of pure aqueous top coats for shoes, bags and nappa's



Aqualen® Top FL series



Description:

- Pure Aqueous, **No** nitro/CAB & free of NMP/NEP
- medium to high gloss

Properties:

- neutral warm hand feel
- good rub fastness (extended with crosslinkers)
- high level of heat-yellowing fastness

Compatibility:

- Highly stable & compatible with casein, wax & duller

Ecology:

- Eliminates solvent exposure to tannery workers and no solvent smell on leather
- Extensive reduction of emission in exhaust air

Use:

- easy to use, dilute 1:1 with water
- smooth garment nappa to high performance shoe upper and hand bag leather articles

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Why Upgrading...Value Addition to Leather?!

RAWHIDE QUALITY AVAILABLE – DEMAND OF PREMIUM LEATHER

high

low

Demand of Premium Leather

Rawhide Quality available

Upgrading

Objective: Upgrading by keeping Leather Elegance!

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Objective: Upgrading by keeping Leather Elegance!

What?

- Masking of grain defects
- Utilization of leather surface area

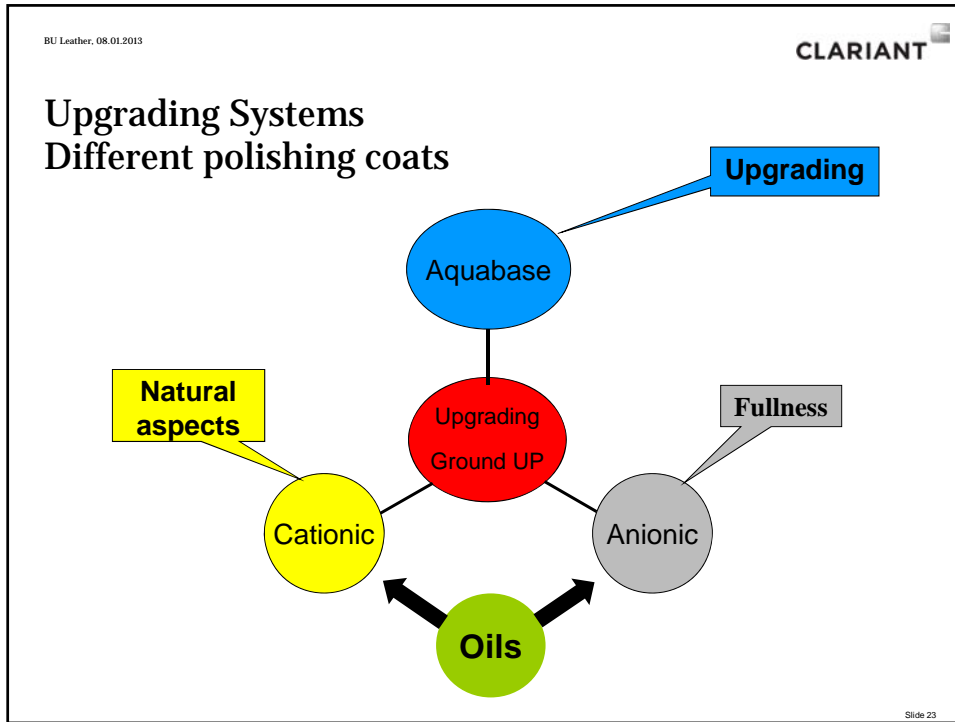
How?

- chemical systems and products
- mechanical steps - embossing
- procedures – extra process step

Upgrading take place in ...

Mainly pre-base and base coats

***Contact your nearest Clariant partner for solutions**



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Upgrading Techniques from Clariant Elegant Fine Leather to High Performance Auto

| Degree of Damage | | |
|------------------|--|-----------------------------|
| | Spatula – universal use <ul style="list-style-type: none"> ✓ Melio® Aquabase M90 ✓ Melio Aquabase MN | Auto/ Furniture |
| | RRC – universal use <ul style="list-style-type: none"> ✓ Melio® Aquabase EF, Melio 06-N-25 ✓ Melio® Aquabase HF, Melio 06 –M-65 | Shoes & Bags |
| | RRC – for Fine Leather <ul style="list-style-type: none"> ✓ Melio Aquabase FPR ✓ Melio Oils and Waxes, Melio Grounds products | Shoes & Bags |

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Current Upgrading Systems

SYSTEMS AND PRODUCTS FROM CLARIANT

- Soft Prebottom Upgrading
 - Oils/Waxes, Cationic/Anionic polishing/plating/burnishing
- Thermo active Fillers
- Melio® Aquabase System by roller and/or spatula
- Water based Pull-Up on pigmented leather 'Aladin'
- Transparent Pigments - **Neosan® LUCIDO**
- **Clariant Shoe Excellence Range**
- Melio® Foam System

MECHANICAL STEPS

- Buffing
- Polishing/ plating/ embossing






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The Real Transparent Pigments

A new dimension in Colouring Leather Finishes



Looks & Aesthetics like a dye with resistance of a pigment!

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Neosan® Lucido... designed for Fine Leathers including Furniture

From Market Demand to Reality...

The **highly transparent Neosan® Lucido pigment range** is a new dimension of **brilliant colours** in **pure aqueous** finishing.

Based on a **nanotechnology type of pigment dispersion !**

Neosan Lucido creates lot of opportunities in **anionic and cationic finishing systems.**

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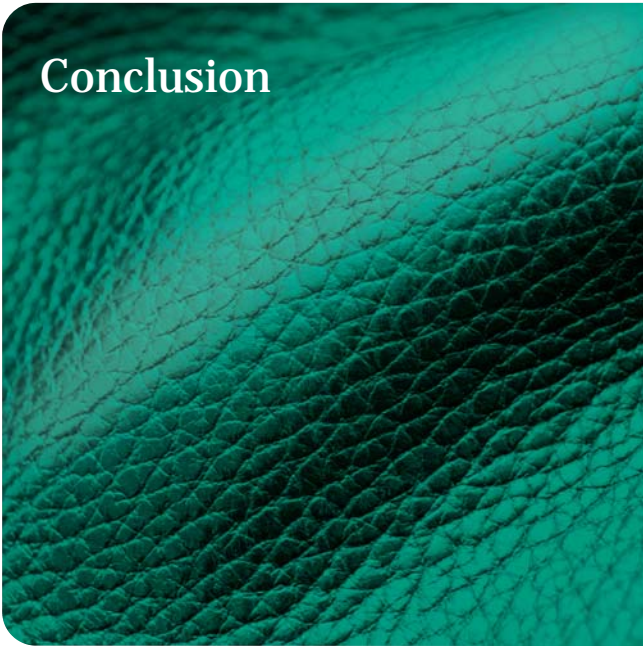
The Real Transparent Pigments based on Nanotechnology Neosan® LUCIDO



Neosan® LUCIDO PIGMENTS are distinguished by the following main characteristics:

- Highly transparent and brilliant shades
- Very high color strength
- Recommended for use in both anionic and cationic finishing systems
- Excellent fastness properties without migration
- Pure aqueous (no NMP, NEP & phthalates)
- Easy & versatile use (fashionable as well as performance leather)
- Computer color matching system
- Similar application behaviour to finishing with dyestuffs

Conclusion



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Sustainable value addition for high end leather applications

Leather will remain having a unique high level value image!

It stands for luxury and value as such – at the end people which wants to be associated with value will pay the extra!



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A strong partner ship for a sustainable future!
The Indian Tanning Industry & Clariant

The diagram consists of four interlocking puzzle pieces arranged in a 2x2 grid. The top-left piece is red and contains the text 'Raw material (from low grade to first grade)'. The top-right piece is yellow and contains 'Indian Tanning Industry'. The bottom-left piece is yellow and contains 'Clariant's products, systems & services'. The bottom-right piece is green and contains 'High value brand leather articles'.

32 Aqualen Top FL series

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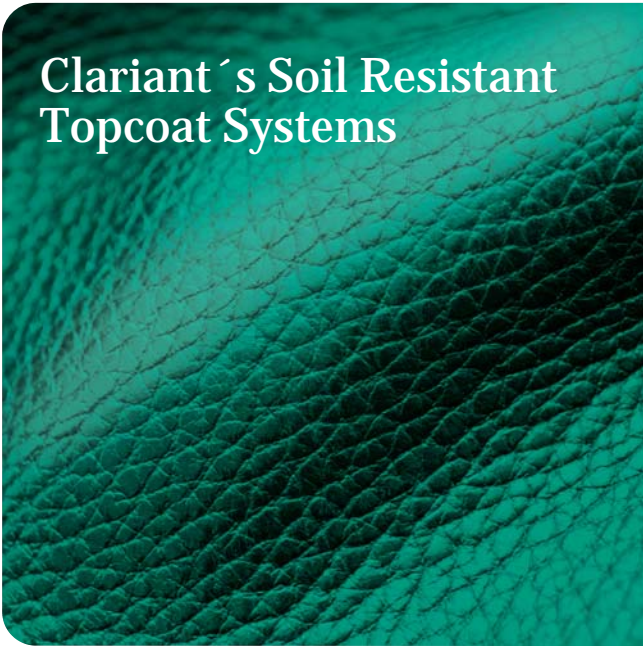
WE WORK AND WIN TOGETHER!!!

CONSIDER THE ENVIRONMENT

Questions?

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Clariant's Soil Resistant Topcoat Systems

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For Remaining Beauty
ANTI-SOILING FINISHING FOR FURNITURE
LEATHER (+ FOR SHOES & BAGS!☺)



THE NEW ANTI-SOILING FINISHING SYSTEM is distinguished by the following main characteristics:

- Excellent anti-soiling behavior
- NMP/NEP-free and low VOC
- Elegant touch
- Easy and versatile use (furniture & bags)
- Shoes & bags can be protected
- Passes highest Automotive spec's

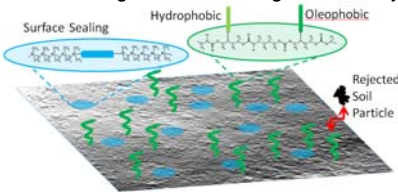
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Soiling – A challenge for Light colored Leather

Performance by new Chemistry

Resistance to soiling by new synthesized binder technology combined with selected additives

- Fixed antisoiling function in the binder backbone
- Additional surface sealing
- Performance Profile as combination of high wear physical properties with antisoiling and antistaining functionality



Advanced Soiling Testing

Combined abrasion and soiling tests

- Carbon Black
- Indigo



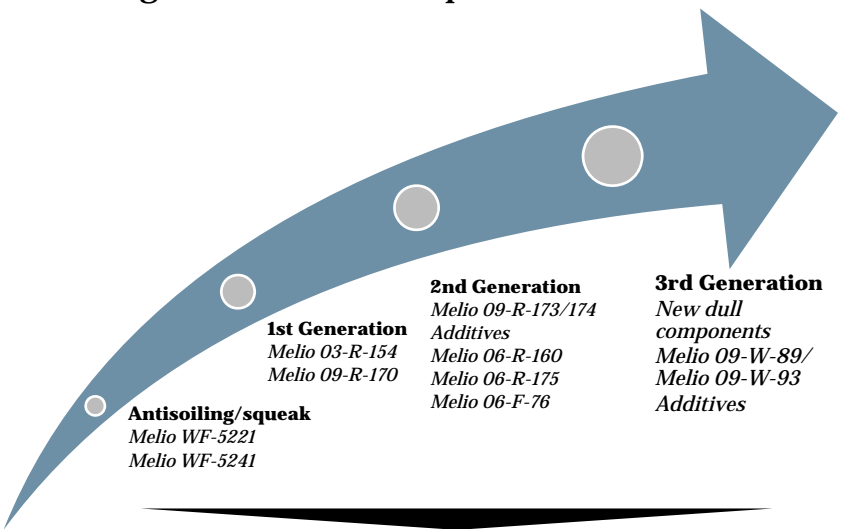
Staining tests with vari

- Coffee
- Orange Juice
- Cola
- Ketchup



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Antisoiling - Product Development



1st Generation
Melio 03-R-154
Melio 09-R-170

Antisoiling/squeak
Melio WF-5221
Melio WF-5241

2nd Generation
Melio 09-R-173/174
 Additives
Melio 06-R-160
Melio 06-R-175
Melio 06-F-76

3rd Generation
 New dull components
Melio 09-W-89/
Melio 09-W-93
 Additives

Formulations based on mix of 2nd and 3rd generation are currently state of the art