LIVE WEBINAR

CHEMICAL LEASING:
A performance-based business model for sustainable chemical management

THE PROGRAM:

• INTRODUCTION
• CHEMICAL LEASING KEY ASPECTS
• EXPERIENCE OF SAFECHEM
• AWARD & STORIES

12 NOV

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WHEN CHEMICALS PERFORM THE BEST!

Gabriela Eigenmann
Branko Danjic
Steffen Saecker
Maria Grineva

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Gabriela Eigenmann

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United Nations Industrial Development Organization - UNIDO

UNIDO’s mandate is to promote industrial development for poverty reduction, inclusive globalization and environmental sustainability.

Since 1966, UNIDO provides:
- Technical cooperation;
- Analytical and research functions and policy advisory services;
- Normative functions and standards and quality-related activities; and
- Convening and partnerships for knowledge transfer, networking and industrial cooperation.

In 2004, UNIDO initiated the global promotion of Chemical Leasing as a part of its Resource Efficiency programme.

HQ: Vienna, Austria - 170 Member States
Since 2004

- Developed the methodology and the website
- Joint Declaration of Intent signed by Austria, Germany, Switzerland and UNIDO, followed by Serbia, Sri Lanka, El Salvador and Peru.
- CHEMICAL LEASING BOOK!
Chemical Production Growth Forecast 2030

• Long-term analysis shows that overall growth of chemicals demand and production is to continue in the future

• World chemicals sales are expected to reach €6.3 trillion in 2030

• The global production, trade and use of chemicals are increasing (esp. in developing countries and countries with economies in transition)
POLL 1

Your feedback is important
Let’s warm up!

Please guess, what could be a function of chemicals used here?

Etiquette  Laundry  Textile
Thank you!

Gabriela Eigenmann
Coordinator of the UNIDO’s Global Chemical Leasing Programme

chemicalleasing@unido.org
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Branko Dunjic

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Chemical Leasing in a Nutshell

Chemical supplier

Provides chemicals and know-how to the chemical user

Pays for the benefits / the service of the chemicals
  e.g. number of tubes cleaned,
  number of clean parts...

Chemical user

More efficient use of chemicals

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Chemical Leasing Business Model Bundles Motivations

Traditional business models
Contradictory motivations

Supplier

User

Volume based pricing
"the more the better"

"less is more"

Chemical Leasing models
Bundled motivations

Supplier

User

Benefit oriented pricing
"less is more"

"less is more"

Service-oriented business model
Performance-based payment
Performance-Based Business Strategies: Basic Ideas

- **User**
  - Pays for the benefits provided by a chemical

- **Producer**
  - Sells the function of a chemical, including know-how on efficiency and risks, adding management services like production management and logistics

- **Amount of chemicals**
  - Will decline as chemicals volume turns from a factor for earnings to a cost driver

- **Added value**
  - Will be shared in a fair way among the involved partners
Example for Chemical Producers
Process: cleaning of 2,000,000 metal pieces

**Chemical producers**

**Traditional business model**

100 t solvents sold = 100,000 $ turnover
100 t production = 80,000 $ var. costs
= 10,000 $ fix costs

Result = 10,000 $ net profit

**Chemical producers**

**Chemical Leasing business model**

Process optimization: only 60 t solvents needed
Chemical Leasing rate 0.04$ per tube

Chemical Leasing income = 80,000 $ turnover
60 t production = 48,000 $ var. costs
= 10,000 $ fix costs

Result = 22,000 $ net profit

Added value: 12,000 $ net profit
Example for Chemical User

Process: cleaning of 2,000,000 metal pieces

Chemical user

Traditional business model

Cost to buy 100t solvents = 100,000 $

Chemical user

Chemical Leasing business model

Cost for 60t solvents = 80,000 $

Added value: 20,000 $
Examples overview
### Examples of Application

<table>
<thead>
<tr>
<th>Industrial sector</th>
<th>Chemicals</th>
<th>Examples of Unit of Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Pesticides and fertilizers</td>
<td>Ha of land, pest controlled</td>
</tr>
<tr>
<td>Beverage and food production</td>
<td>Adhesives, lubricants, solvents</td>
<td>Hl beverage produced, running hours of belt</td>
</tr>
<tr>
<td>Petrochemical industry</td>
<td>Catalysts</td>
<td>Tonnes of final product</td>
</tr>
<tr>
<td>Hotel and service sector</td>
<td>Cleaning &amp; disinfectants chemicals</td>
<td>M² cleaned floor; number of cleaned dishes</td>
</tr>
<tr>
<td>Car manufacture</td>
<td>Paints, solvents</td>
<td>Number of cars painted</td>
</tr>
<tr>
<td>Various industries: Surface treatment</td>
<td>Solvents, Coating powder, paints, galvanizing and phosphating agents</td>
<td>M² coated surface; running hours of cleaning machine</td>
</tr>
</tbody>
</table>
Case Study – Cleaning of Metal Parts

Situation Before Chemical Leasing Implementation

• Cleaning operation was **bottle neck** in the process
• Consumption of solvent was **very high** (30 t/year)
• Solvent from machines had to be **changed every week** (600 l)
• **Quality** of cleaning was **not good** enough
• Amount of **hazardous waste** that had to be exported was high (25 t/year)
• **Machine parts corroded** and had to be changed frequently
Unit of Payment

**Monthly Fee:** defined number of working hours of cleaning machines
Case Study – Cleaning of Metal Parts

Situation After Chemical Leasing Implementation

- Solvent was substituted by modified one
- Solvent parameters are regularly monitored and adjusted
- Solvent is recovered on site (enhancement of equipment by distillation unit)
- Solvent is supplied and handled in a way that prevents evaporation to working environment
- Waste is taken back by the supplier

- Productivity was improved
- The time of the cleaning cycle is shorter
- More parts are packed in baskets
- No down-time because there is no more a need for frequent solvent change and maintenance
- There is no more corrosion of machine parts – reduced maintenance costs
Case Study – Cleaning of Metal Parts

Situation **After** Chemical Leasing Implementation

- **30% cost reductions** for solvents
- Annual savings are about **100,000 EUR**
Chemical Leasing, a Triple Win Situation

**Environment**
- Emission and resource use reduction
  - Air pollution
  - Water pollution
  - Waste load
  - Resource use

**Economy**
- Cost reduction and added value
  - Costs
    - Others
    - Users
    - Supplier

**Win:**
- Chemicals user
- Chemicals supplier
- Environment & health
Chemical Leasing is Difficult / Does Not Work in Case of:

- Norms that prescribe chemical consumption
- Given recipes
- Processes where modifications require permits
- Core knowledge of a user (confidentiality)
- No knowledge on supplier side on application
- Already existing collaboration for process optimization
- Many parallel suppliers with short term contracts
Main Actors in Chemical Leasing

Main actors

1. Chemical suppliers/ producers
2. Chemical users

Additional stakeholders and know-how carriers

- Equipment/plant suppliers
- Recycling/disposal companies
- Quality assurance institutes
- Financial institutions
- Consultancies; mediators
- National governments; international organizations (e.g. UNIDO)
Different Constellations of Chemical Leasing Business Models

Model A:
- Supplier of chemicals
- chemical fulfils product specifications
- used chemical
- User of chemicals

Model B:
- Supplier of chemicals
- solution
- User of chemicals
- Equipment supplier

Model C:
- Supplier of chemicals
- Equipment supplier
- Other partners
- User
Core Elements of a Contract

• Allocation of benefits generated:
  Recommendation: Include planned values but also the option for modification to the “real” situation.

• Rules of co-operation:
  Recommendation: Define rules for unplanned overconsumption of chemicals by the user, this might include penalties for the user. A provision for expected consumption might be useful.

• Liability and warranty:
  Recommendation: Define liability and warranty separately for each partner.

• Confidentiality:
  Recommendation: Be as precise as possible!

• Conflict resolution
The Sustainability Criteria and Their Indicators

http://chemicalleasing.org/concept/sustainability-criteria

It is in the interest of all involved partners that a performance-based business model, such as Chemical Leasing, follows high quality standards.
Thank you!

Branko Dunjic

Director of the National Cleaner Production Centre - Serbia

Email: chemicalleasing@unido.org
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Q&A
Let go together toward the horizont of opportunites and success stories...
IDEA
Is WIN-WIN realistic?

EFFORTS
A lot of them...

RESULTS
Environmental, economic, social

RECOGNITION
Companies, teams, individuals
There are PEOPLE behind EACH success
IDEA
Is WIN-WIN realistic?

EFFORTS
A lot of them...

RESULTS
Environmental, economic, social

RECOGNITION
Companies, teams, individuals

INSPIRE OTHERS AND DISSIMINATE
Companies, teams, individuals

GLOBAL AWARD
BENEFITS AND SAVINGS in the processes

Reduction in chemicals:
Up to 90%
average 30-40%

Other resources, plastic and packaging:
Up to 80%
average ≈60%

Water reduction / elimination:
Up to 90%
average ≈50%

Energy and CO2 reduction:
Up to 65%
average ≈30%

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Main Award Categories

Category I
CASE STUDY

Category II
INNOVATION

Category III
RESEARCH
Award Categories

Case Studies

• For users and suppliers of chemicals.

• The implementation of a performance-based business model, such as Chemical Leasing. (a contract is signed).
Award Categories
Innovation

For case studies with technical solutions that can or have the potential to define a new state of the art for a certain use of chemicals

Examples - Award 2018:

Henkel: optimisation system for water-based labelling processes based on the Internet of Things (IoT)

Electroquimica West S.A: New chemical product for protection against oxidation
Award Categories

Research

• For research and development activities
• E.g. new products, new processes, patents, business concepts papers, lectures, curricula, etc. to bring performance-based business models (e.g. Chemical Leasing) forward.
• Must have a clear link to performance-based business models.

Examples – Award 2018:
University of Nottingham, UK: Concept and vision. Moore’s Law for Chemistry
Bila Tserkva National Agrarian University, UA: Curriculum
Special Awards and Recognition

Special award
WOMEN-LED INITIATIVES

Special award
START-UPS

Special jury recognition
CHAMPIONS
How to Apply

01. Look at the Chemical Leasing definition and find out if you have a project/activity which is in line with it.

02. Check award background info, and the evaluation criteria.

03. Complete the application form and fill in the indicator checklist (to the extent possible).

04. Attach relevant documents and send ChemicalLeasing@unido.org

NOTE: At www.chemicalleasing.org you can find an Application Form for each category, Background Info and the Indicator Checklist for the Chemical Leasing Sustainability Criteria.

It is an additional asset if the applicants can proof the data that are given in the form.
The Award ceremony will take place in Bonn, Germany from July 2021 (date to be confirmed).

- It will be part of the Fifth Meeting of the International Conference on Chemicals Management (ICCM5).
- The application period is open until 15 December 2020.
- More information: www.chemicalleasing.org
Important Note

The organizers of the Global Chemical Leasing Award treat all date received from applicants as highly confidential and not to disclose any date to public or private entities without the prior written authorization given by the applicant.
The award materials

Global Chemical Leasing Award 2021

We are happy to announce the fifth Global Chemical Leasing Award.

The Award aims to acknowledge best practices, innovative approaches and ideas related to Chemical Leasing and similar performance-based business models for sustainable chemicals management. The Award ceremony will take place in Bonn, Germany from 7 to 9 July 2020. (Date to be confirmed). It will be part of the Fifth Meeting of the International Conference on Chemical Management (ICCM5).

Companies and individuals are invited to submit entries in the categories. Three main categories (Case studies, Innovation, Research) and two special awards (Women-led initiatives, Start-ups) in addition to a special jury recognition “Chemical Leasing Champion” will be given to companies that demonstrate a long-standing commitment to Chemical Leasing. Detailed information about each award category and application requirements are provided below.

The Award is co-sponsored by UNIDO, the governments of Austria, Korea, and Switzerland, and co-sponsored by the European Association of Chemical Distributors. The award ceremony will take place on 5 July 2020.

The application period is open until 15 December 2020.

Send your application(s) to: ChemicalLeasing@unido.org

Interested in becoming an award communication partner? Contact us

You can share this:

CONTACT US

APPLICATION DOCUMENTATION
- Background information
- Application form
- Indications checklist

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The Award is co-organized by UNIDO, the governments of Austria, Germany and Switzerland, and FECC.
Chemical Leasing at one glance: Developing and celebrating a success story together
Towards the horizont of sustainability, where chemicals perform their best...
Thank you!

Maria Grineva

International Communication Expert for UNIDO’s Chemical Leasing Programme

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WANT TO LEARN MORE?

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Questions and Answers
POLL 2

Your feedback is important
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