ETW Business Solutions

Interfaces for company specific requests

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IVE mbH

4th Stakeholder ETW Workshop Gothenburg
“Aligned emission accounting – joint action” - The pathway to united carbon reductions in global transports
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Principle

The Business Solution of EcoTransIT World provides customer interfaces to calculate their individual transport services.
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3 possible ways to utilize the results

Customers of the Business Solution can utilize EcoTransIT World in any desired and individualized form.

- Calculation/Reporting
- Communication
- Benchmarking

- Carbon footprint of whole supply chain
- Environmental comparison of individual shipment
- Use of carrier-specific emission factors, scenario feature for supply chain analysis
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Needed data for a calculation

At least the **cargo weight**, the **origin and destination location** and the **transport type** is needed to start a calculation.

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**Calculation Parameters**

<table>
<thead>
<tr>
<th>Input mode</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight</td>
<td></td>
</tr>
<tr>
<td>Origin</td>
<td></td>
</tr>
<tr>
<td>Destination</td>
<td></td>
</tr>
</tbody>
</table>

Cargo weight

Origin, destination

Transport type

Missing information will be filled up with ETW or company specific pre-defined default values.

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**Calculation Parameters**

<table>
<thead>
<tr>
<th>Weight:</th>
<th>5 Container (TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>t/TEU:</td>
<td>10</td>
</tr>
</tbody>
</table>

**Transport service**

Sea ship

<table>
<thead>
<tr>
<th>Origin:</th>
<th>Hamburg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class:</td>
<td>Dry</td>
</tr>
<tr>
<td>Freight:</td>
<td>CC Suez trade</td>
</tr>
<tr>
<td>type:</td>
<td>(4,7/-k TEU)</td>
</tr>
<tr>
<td>Speed:</td>
<td>25.0%</td>
</tr>
<tr>
<td>LF:</td>
<td>67.0%</td>
</tr>
</tbody>
</table>

**Destination:** Shanghai
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Scientific support included

ETW is an emission calculator. To support companies every project has included the support of a scientific partners to assure a high calculation level.

- Support of getting more transport information out of the available data
- More detailed input data increases the accuracy of the result
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Different kinds of interfaces

All kinds of business solutions using the same calculation module including the same methodology and routing data

- Individual on companies website
- CSV-File upload via website (manual)
- SOAP-XML web service (synchronous)
- Connection via sFtp or simple Socket connection (asynchronous)
Business Solutions Interfaces

CSV-FILE UPLOAD VIA WEBSITE
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CSV-File upload in detail

Interface for manual upload via website of CSV files (Excel). One row equals to one transport service.

- Format is column-based and includes in the standard version the principle pre-, main carriage and post carriage.
- One file (job) can have up to 30,000 rows
- Output can be e.g. csv, kml (routes), pdf (documents) per job
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CSV-File upload login screen

Password secured user login, different user logins are possible.
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CSV-File upload Create Job

The **Create Job** screen enables the upload of a csv file and the definition of default values.
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CSV-File upload Job list

At the screen Joblist the user gets access to the status and results of his uploaded calculation jobs.
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CSV-File upload Calculation Status

A click on the Job ID shows the actual calculation status.
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CSV-File upload Job Summary

A click on the Name shows the job summary including calculation time and possible error messages.
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CSV-File upload Results

The calculation result can be e.g. csv, pdf, kml (Google Earth).
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SOAP-XML WEBSERVICE
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SOAP-XML Web service Principle

The SOAP-XML web service is a standardized and the state-of-the-art method how computer exchanges information automatically.

- Customer sends requests and get direct a response from ETW. Synchronous direct communication, up to 40 calculations parallel

- Most flexible interface, including modelling any desired global transport chain due to easy and scalable XML format

- Flexible output request enable results per country or traction type
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SOAP-XML Web service Example

Send per http to IVE web service
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Web service request types

The SOAP-XML web service has different request types for transport accounting or e.g. location identification.

<table>
<thead>
<tr>
<th>Request type</th>
<th>Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation Request</td>
<td>Calculates any global intermodal transport chain on the base of defined sections.</td>
</tr>
<tr>
<td>Flight Number Request</td>
<td>Response information of a flight number, like plane type, stop-overs inclusive emission accounting</td>
</tr>
<tr>
<td>Transfer point Request</td>
<td>Responses respective transfer points of a location pair and a transport type (e.g. harbors for two postal codes)</td>
</tr>
<tr>
<td>List location Request</td>
<td>Responses respective location option of a location type (e.g. city names of a postal code or locode)</td>
</tr>
<tr>
<td>List vehicle Request</td>
<td>Responses all available vehicle types of a transport type</td>
</tr>
<tr>
<td>Statistic Request</td>
<td>Responses number of send requests within a defined filter (e.g. requests per month)</td>
</tr>
</tbody>
</table>
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ON COMPANIES WEBSITE
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Individual ETW websites via an iframe

Content of the iframe is provided from server at IVE mbH.
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Individual websites via web service

Website developed by the customer using the web service.
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Interface usage

Most of the customers using the web service as communication interface.
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ADDITIONAL FEATURES
The business solution provides additional features compared to the website www.ecotransit.org.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCWG Methodology</td>
<td>Use CCWG trade lanes and emissions factors for container sea transports (whole GHG emissions)</td>
</tr>
<tr>
<td>Flight number lookup</td>
<td>Use OAG interface to identify the respective plane type on the base of a flight number (include belly/freighter)</td>
</tr>
<tr>
<td>Truckload consideration</td>
<td>Automatic load factor determination for FTL, LTL or LCL transports (Truck and train)</td>
</tr>
<tr>
<td>Zip Code Analyzer</td>
<td>Analyses not existing zip codes and identifies close alternatives</td>
</tr>
<tr>
<td>Alias map</td>
<td>Include company own location codes and map them to common locations or coordinates</td>
</tr>
<tr>
<td>Individual Defaults</td>
<td>Define company specific default values for any kind of transport type or country</td>
</tr>
<tr>
<td>Individual Electricity Mixes</td>
<td>Use company electricity mixes for railway transports</td>
</tr>
</tbody>
</table>
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CCWG Methodology

ETW Business Solutions enables the GHG calculation for transports of container sea ships on the base of the CCWG.

- Annually updated real measured emission factors aggregated per trade lane from CCWG/BSR
- ETW Identifies the correct CCWG trade lane automatically on the base of a port pair
- Recalculates energy consumption, CO2 and CO2e as Well-to-wheel
- Air pollutants are calculated with ETW methodology
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OAG Flight number lookup

Via the OAG time tables identifies ETW plane types and stop-overs on the base of the flight number.

- Timetables updated twice a year including all aviation companies
- ETW selects the plane type with the highest flight frequency
- Stop-Over identification for better calculation results
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Truckload consideration

ETW Business Solutions enables the automatic load factor determination for FTL, LTL, FCL transports (truck and train)

- Load factor of a full truck load (FTL) is calculated on the base of the maximum vehicle payload and the freight weight

- Load factor of a full container load (FCL) is calculated on the base of the maximum vehicle payload and the tons per teu value

- Less than truck load (LTL) uses a default load factor
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Technical issues & Security aspects

Every customer has its Business Solutions modules on his own capsulated hardware.

- Default hardware is a virtualized server located at the calculation center at IVE mbH, Hannover

- Calculation speed is in the regular case between 0.2 to 0.5 seconds per transport service, which are 150,000 – 200,000 calculations per day and server

- The capsulated server safeguard the customer data

- Secure communication (https, sftp or via a vpn)
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Example Workflow

The following work-flow shows the exemplary the realisation of an ETW Business Solution.

- First contact via email or phone
- Informational web or physical meetings
- Decision on customers side
  - If helpful test account
- Contractual issues
  - Outline contract including Proposal, EULA, C&C
  - Governance Rules of EWI
- Setup und supply of the hardware, modules
- Feedback and support phase
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Cost & Condition

The cost of a business solution is separated into the initial cost of the solution and the annual license fee.

- The cost of the annual license depends on the company turn-over and allows the usage of any EcoTransIT World module (flat rate)

- Initial cost (once-only) include hardware, setup cost of product, technical and methodology support

- IVE mbH is the single point for contracts and acts on behalf of the EcoTransIT World Initiative.
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Contact data

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