

## Data centres



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# Alara-Lukagro

## The specialist in noise control for data centres

Making noise is easy. However, it is often necessary to make as little noise as is possible. Controlling the elements in order to conceal even the smallest vibration is a profession which Alara-Lukagro has mastered. Craftsmanship which is all too often hidden behind the view of the general public. Nevertheless it plays a decisive role in the end result. We will gladly make our more than 50 years of experience in innovative, sustainable and practical silence solutions available to you.

### Why Alara-Lukagro?



#### Knowledge at your disposal

Sound control is a profession. We have this expertise and we will gladly share it with you.



#### Surprisingly good

Quality is self-evident to us. Our employees will always make the extra mile to turn your project into a success.

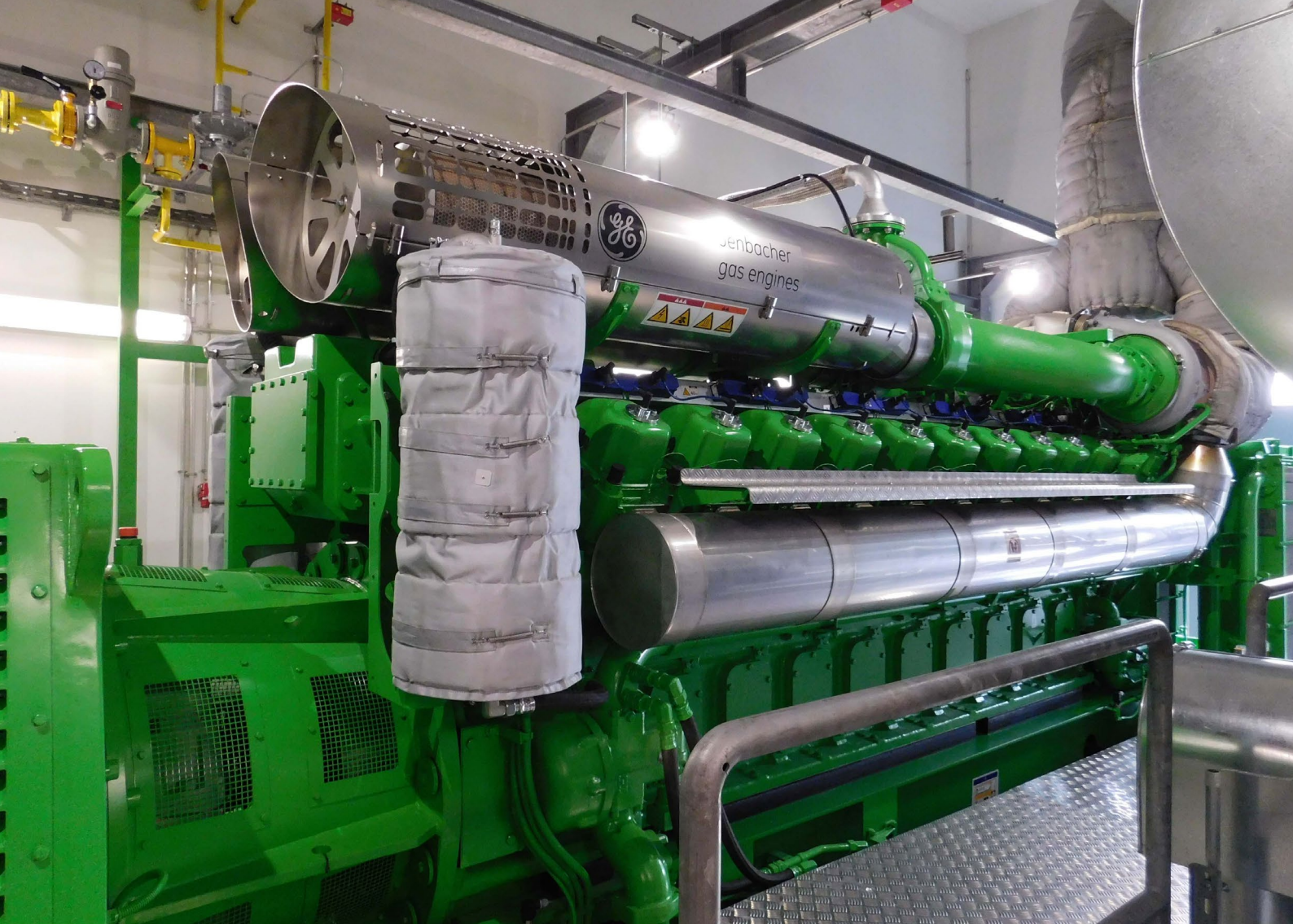


#### Responsible partner

Your project is in the hands of the people who feel responsible for the final result of your project. We always work with an eye for people and the environment.





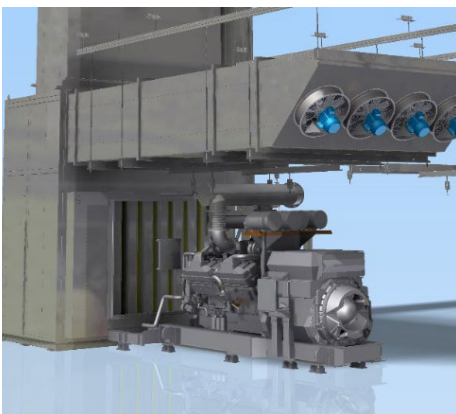


## Noise control solutions in data centres

Data centres are the digital centre of our world. Availability and reliability are leading in the technical design and back-up power supply is installed in to the data centre to secure a high level of guarantee.

Alara-Lukagro is proud to be contributing to this new online world with products that lead to a more secured environment at data facilities.

**Our solutions for a safe and reliable data centre:**



**Ventilation systems**



**Acoustic enclosures**



**Doors**



## Ventilation systems

### Your ventilation for emergency power supply in safe hands

To guarantee a high level of security, the downtime should be as minimum as possible. Generators provide emergency power, in case of a power failure on the local network. To provide emergency power, the generators have to be filled with fuel, provided with ventilation and take care of flue gas exhaust through penetrations in the enclosure or the building. It is important to reduce the noise emission as this is crucial to comply with the environmental legislation.

Our product range for ventilation systems:

- **Software:** Alara-Lukagro uses advanced technologies. CFD (Computational Fluid Dynamics) and other finite element methods modeling, helps to understand specific challenges. Our own noise calculation program give us accurate information regarding the measures that are needed to comply with all requirements.
- **Ventilators:** Will be project specific, selected according to ventilation cooling air, pressure requirements and demands according to explosion (ATEX) or variable speed selection (frequency regulators).
- **Silencers:** Alara-Lukagro offers a wide range of silencers for the air inlet and outlet. Cylindrical silencers or square silencers with splitters, staggered splitters or splitters with Helmholtz-resonators ( $1/4$  lambda). Every room is different in terms of dimensions, case-radiated heating/required cooling capacity and source capacity. Based on this information we select the right silencer with the suitable pressure characteristics.
- **Flue gas:** For draining of toxic gases Alara-Lukagro can provide smoke/exhaust gas silencers including pipe systems, such as a CE marked chimney. All duct systems can be provided with thermal and acoustical insulation.
- **Filters:** All ventilation systems can be provided with filter systems, capable of handling variable flow rates, fire dampers, rain screen louvres and roof cowls.
- **Experience:** Alara-Lukagro has a wide range of experience in standard ventilation systems and complete ventilation systems with special demands in extreme environments, e.g. extreme weather conditions, limited space, high temperatures, corrosive environments, inclusive complete constructions and chimneys. All products will be delivered with the necessary certification.



## Acoustic enclosures & containers

### Your generator for emergency power supply in safe hands

Alara-Lukagro can provide different types of acoustic enclosures & containers when the generators are installed outside of a building. The enclosures and containers offer good protection against radiated noise emission and weather conditions. The housings are acoustically and thermally insulated, provide necessary ventilation conditions and can include fire protection.

Our product range for housings:

- **Acoustic panels:** The enclosure is built up with individual panels which are assembled on location to create a robust housing. The panels with integrated steel construction provide a high sound insulation, whereby the residents do not complain about sound emission of the installation.
- **Containers:** Instead of assembling an enclosure on site, it is also possible to integrate all the required equipment in a container. This container can be delivered as plug-and-play unit. Alara-Lukagro will take care of the complete design, construction, including electric and mechanical systems and including delivery on site.
- **Ventilation:** The required air flow will be calculated based on the custom requirements.
- **Calculation:** During the design process, different strength calculations will be executed. CFD may be used for the calculations of air flows and temperature distribution. Alara-Lukagro use also other finite element methods to do different type of calculations that benefits the mechanical and acoustical design.





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## Doors

### More than just a door. Structural security with many options

Alara-Lukagro is one of Europe's largest supplier of special doors. All our doors are extensively tested and certified. Alara-Lukagro doors can be used for burglary resistance for the physical security of the building of a data centre, and a sound insulated door for the generator rooms and as an escape door. You are assured of a safe building because all our doors are CE certified.

Doors functionality:

- **Custom-made:** Each and every door is custom made, based on the wishes and demands of the client. Because we have tested our doors on so many aspects, we have increased knowledge, so we can meet the most extensive customer requirements.
- **Sound insulated doors:** All single and double leaf doors have a high sound reduction.
- **Fire resistance doors:** Alara-Lukagro can provide for the Dutch and European market, fire resistant and certified doors conforming the EN-16034 to the maximum classification of EW 120, EI1 60 and EI2 90.
- **Burglary resistance:** Doors can be upgraded to burglary resistance class WK3.
- **Access control:** It is possible to equip the doors with electric locks or lock plate, therefore providing controlled access by means of scanners or card lasers.
- **Combined features:** All mentioned characteristics can be applied while maintaining its certifications and high sound insulation.
- **Certainty:** Because of our experience in designing, producing and assembling, we can always help you with the right advice and offer you a turnkey solution.





## More solutions for a reliable data centre

- **Walls:** It is possible, with the sound insulated walls of Alara-Lukagro, to part entire rooms. The walls can be installed later and therefore it is possible to install large objects, like engines, in the mentioned rooms. In addition, the sound insulated walls, which are characterized by sufficient bearing capacity and wind resistance, can be used to reduce the radiated noise emission, for cooling machines on the rooftop, towards the environment.
- **Vibration insulation:** Generators causes vibrations that are tangible at great distances. By setting up the generators on vibration isolators, vibration transfer to the rest of the structure can be prevented.

## Alara-Lukagro as your partner

- **Made in Holland:** Quality is guaranteed. Custom design, engineering, production and coating, all in our high standard facility in The Netherlands.
- **Knowledge:** Knowledge of sound, and demands from the data centre market with advanced engineering and production methods.
- **Experience:** We are happy to accept the challenge. Alara-Lukagro already has extensive experience in both standard solutions and complete custom specific solutions with special requirements and circumstances.
- **Certified:** Alara-Lukagro is ISO 9001, ISO 14001 and hold a SSC certificated.

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