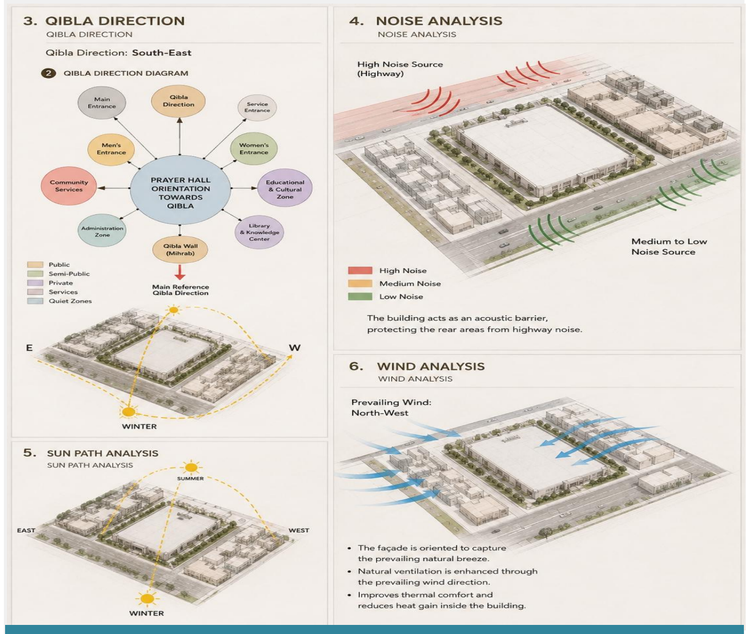
Architectural Concept

CONCEPT IDEA

The minaret is inspired by the first divine revelation, "IQRA" (Read), symbolizing knowledge, enlightenment, and spiritual elevation. The word "IQRA" is abstracted into a contemporary Islamic geometric pattern, creating a distinctive architectural identity while expressing the believer's journey toward divine guidance. Natural light, ventilation, and integrated acoustic openings enhance both the spiritual experience and the functional performance of the minaret

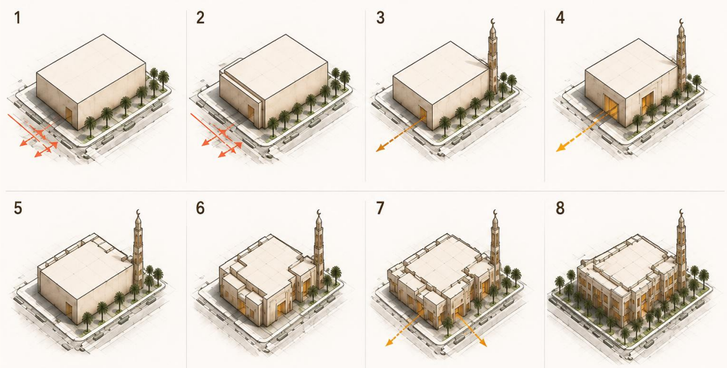
ZONING CONCEPT

The project is organized into clear functional zones, placing the prayer hall at the spiritual core while educational, cultural, and service spaces surround it. This layout ensures efficient circulation, privacy, and effective acoustic separation



MASSING DEVELOPMENT

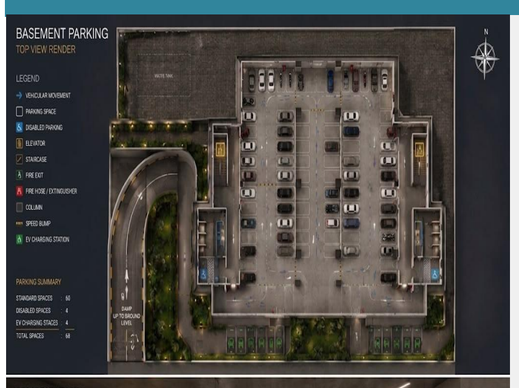
The design evolves from a simple, compact mass that responds to the site constraints. Openings are carved to improve daylight and ventilation, while the building is oriented toward the Qibla. Entrances are clearly defined to enhance circulation, and the volumes are articulated to create a balanced architectural composition. The final form integrates the iconic IQRA-inspired minaret, expressing both spiritual identity and contemporary Islamic architecture.

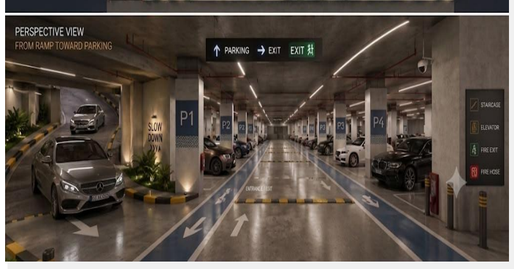




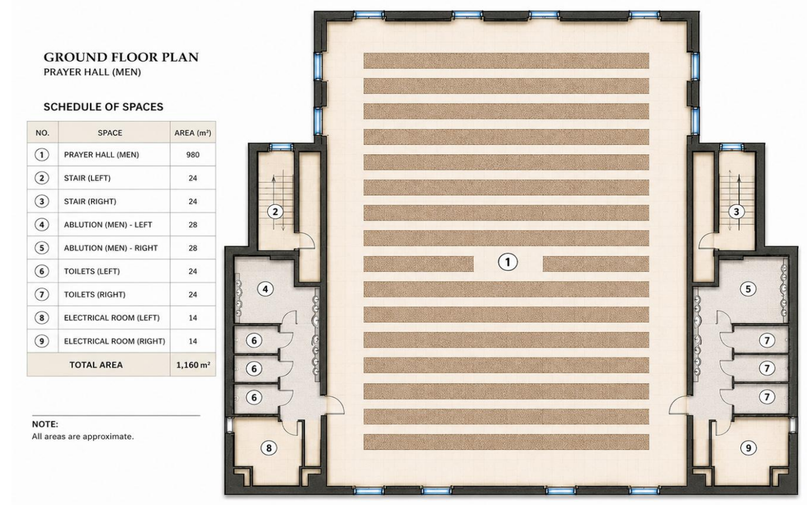


BASEMENT PARKING



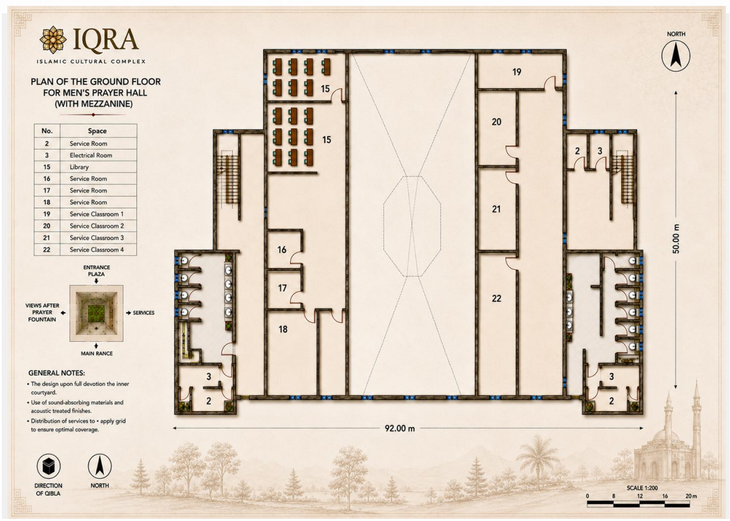


Safe and efficient vehicle circulation.
Clear entry and exit routes.
Accessible parking near vertical circulation.
Safe pedestrian movement.
Adequate lighting and ventilation.
Designed according to Egyptian Code requirements.



NO.	SPACE	AREA (m^2)
1	SERVICE ROOM	14
2	ELECTRICAL ROOM	14
3	LIBRARY	80
4	WC (MEN)	24
5	MULTI-PURPOSE ROOM 1	120
6	RECEPTION	40
7	HALL	160
8	LECTURE HALL	60
9	MEETING ROOM	25
10	IMAM OFFICE	16
11	ADMINISTRATION OFFICE	16
12	FINANCE OFFICE	16
13	MANAGER OFFICE	16
14	PANTRY	16
TOTAL AREA		613 m^2





ENTRY ACOUSTIC STRATEGY

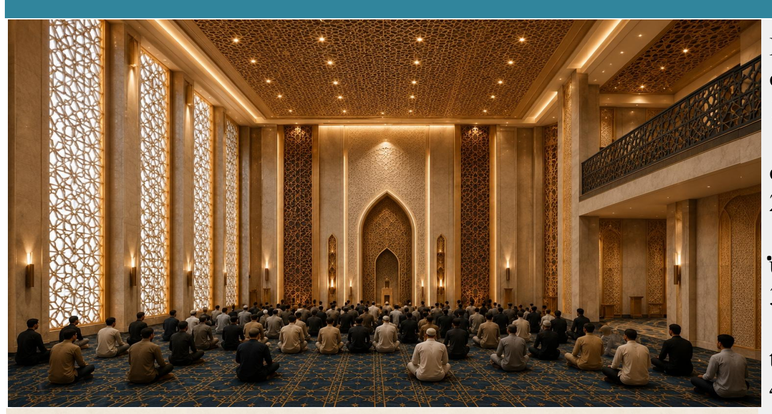


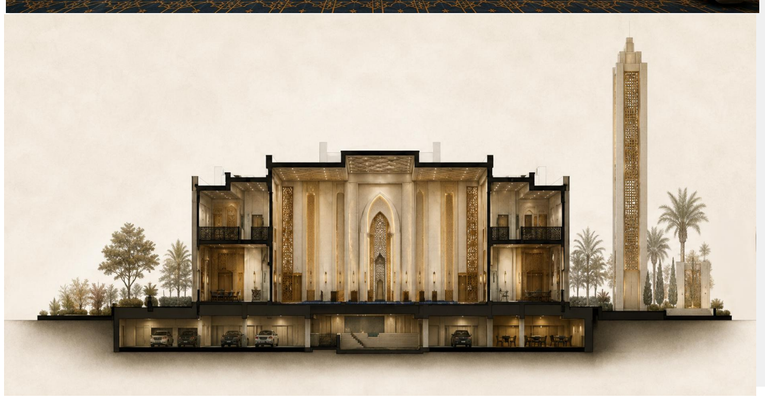
FROM URBAN NOISE TO SPIRITUAL SILENCE

The entrance is designed as a layered acoustic transition from the highway to the prayer hall. A long setback, dense landscape buffers, and water features gradually reduce external noise, creating a calm and welcoming approach. A double-height acoustic vestibule, thick walls, and controlled openings provide additional sound protection, while the entrance orientation reinforces the transition from the noisy urban environment toward a peaceful spiritual space.

FROM URBAN NOISE TO SPIRITUAL SILENCE

ACOUSTIC ABSORBENT MATERIALS





Integrated acoustic treatments enhance sound clarity and create a calm, comfortable prayer environment.

1. ACOUSTIC CEILING PANELS
Perforated panels reduce reverberation and improve speech clarity.

2. ACOUSTIC WALL PANELS
Fabric-wrapped panels absorb sound and minimize unwanted reflections.

3. ACOUSTIC MIHRAB TREATMENT
Curved acoustic surfaces control sound reflections around the Mihrab.

4. DECORATIVE SCREENS & ABSORBERS
Islamic screens integrate acoustic absorption with architectural identity.

CROSS SECTION B–B

The section illustrates the spatial hierarchy of the mosque, highlighting the relationship between the main prayer hall, upper levels, service spaces, and basement. The double-height prayer space enhances visual connection, natural light, and spiritual atmosphere.

ACOUSTIC SECTION STRATEGY

Acoustic ceiling and wall treatments control reverberation

Long, M. — Architectural Acoustics, 2nd Ed., 2014.
Egan, M. D. — Architectural Acoustics, 1988/2007.
Ermann, M. — Architectural Acoustics Illustrated, 2015.
ENOSH Science Center — Architectural Acoustics & Noise Control Technical Notes.

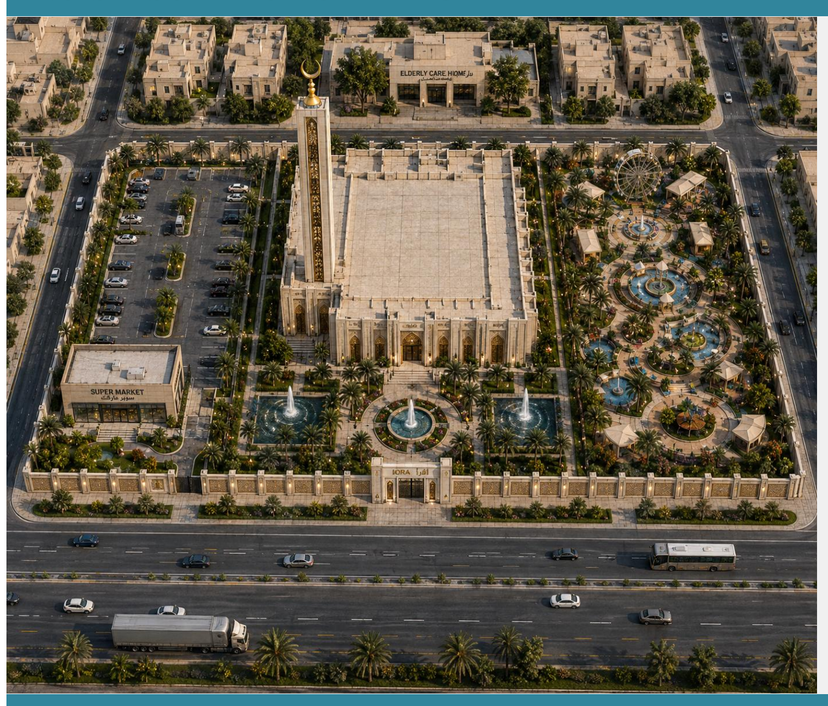
ACOUSTIC CONCEPT

ACOUSTIC BUFFER STRATEGY



High-mass walls reduce external noise.
Dense landscape acts as a natural sound buffer.
Water features help mask traffic noise.
Building setback creates a quieter approach.
Secondary screens enhance acoustic protection.
Together, these layers create a calm prayer environment.

NOISE ISOLATION STRATEGY



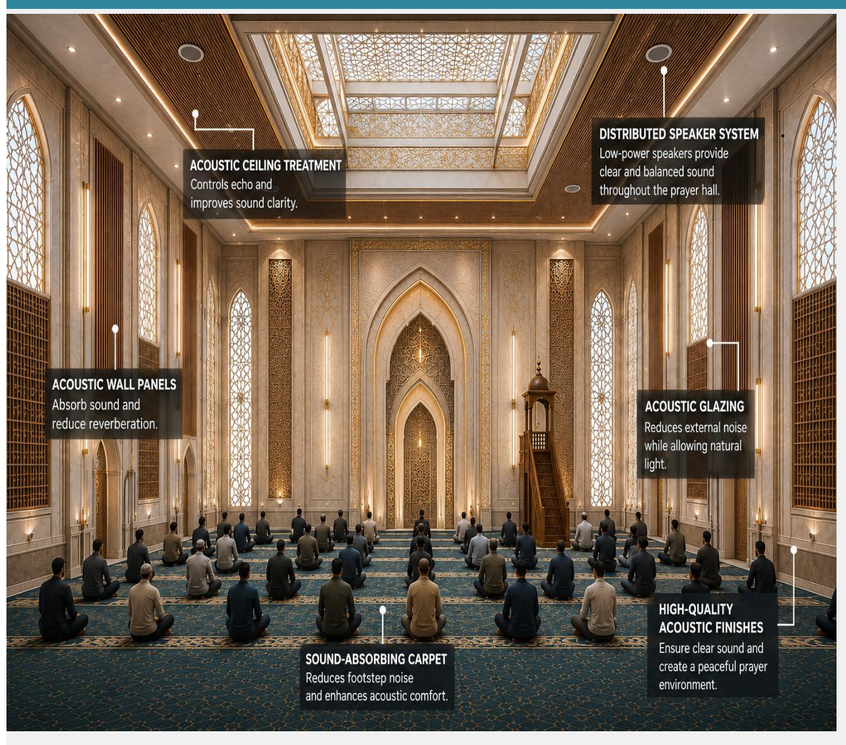
Architectural massing and landscape buffers protect the mosque from external noise.
NOISE CONTROL
High-mass walls.
Minimized openings.
Dense green buffers.
Acoustic materials.
ACOUSTIC COMFORT
Sound-absorbing finishes enhance clarity and create a peaceful prayer environment.
PRIVACY CONTROL
Minaret sound is directed away from the elderly care home.
FROM URBAN NOISE

PREVENTING ADHAN & EVENT NOISE



Protecting the elderly care home from surrounding noise.
ACOUSTIC STRATEGIES
Mosque mass as acoustic barrier.
Dense green buffer.
High solid walls.
Acoustic windows.
Sound-absorbing materials.
Directed minaret speakers.
PROTECTED QUIET ZONE

INTERIOR ACOUSTIC STRATEGY

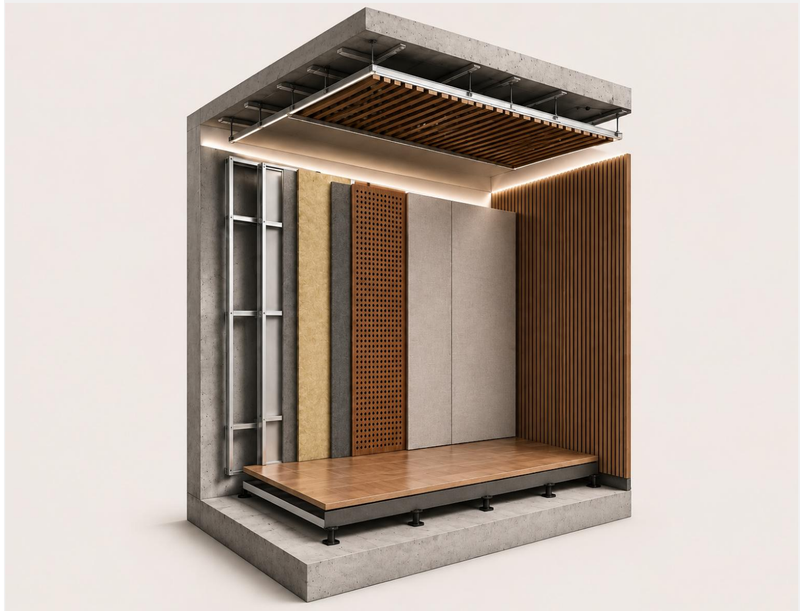


Acoustic ceiling treatment controls echo and reverberation.
Distributed speakers provide clear and balanced sound coverage.
Sound-absorbing wall panels improve speech clarity.
Acoustic glazing reduces external noise transmission.
Sound-absorbing carpet minimizes footsteps and reflected sound.
High-quality acoustic finishes enhance overall acoustic comfort.

REFERENCES
Long, M. — Architectural Acoustics, 2nd Ed., 2014.
Egan, M. D. — Architectural Acoustics, 1988/2007.
Ermann, M. — Architectural Acoustics Illustrated, 2015.
Speech Transmission Index (STI) Design Guidelines.
Published Research on Mosque & Worship-Space Acoustic

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INTEGRATED INTERIOR ACOUSTIC STRATEGY



A layered acoustic system is used to reduce noise transmission, control reverberation, and improve sound clarity.
WALL SYSTEM
Mineral wool insulation, acoustic panels, and perforated wood finish.
CEILING SYSTEM
Acoustic insulation with suspended perforated wood panels.

INTERIOR ACOUSTIC STRATEGY



The acoustic design creates a quiet and comfortable learning environment that enhances focus and speech clarity.
Acoustic ceilings reduce reverberation.
Wall panels absorb reflected sound.
Acoustic glazing limits external noise.
Sealed doors improve sound isolation.
Floating floors reduce impact noise.

MANAGEMENT OFFICE



A calm and professional workspace designed to support focus, privacy, and efficient management.

Warm materials and integrated lighting create a welcoming atmosphere.

Functional furniture supports daily administrative tasks and meetings.

Islamic details strengthen the architectural identity of the space.

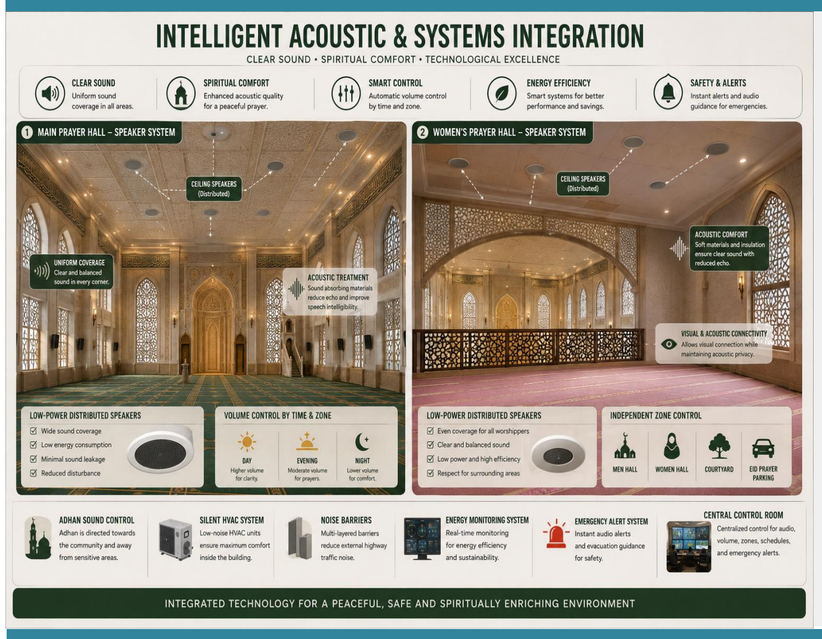
LIBRARY



A calm and inspiring space designed for reading, research, and reflection.
Natural light, warm materials, and comfortable study areas create a focused learning environment.
The library connects knowledge, culture, and Islamic identity.
QURAN MEMORIZATION ROOM
A peaceful learning space designed for Quran memorization, recitation, and teaching.
Acoustic comfort, soft lighting, and organized seating enhance concentration and speech

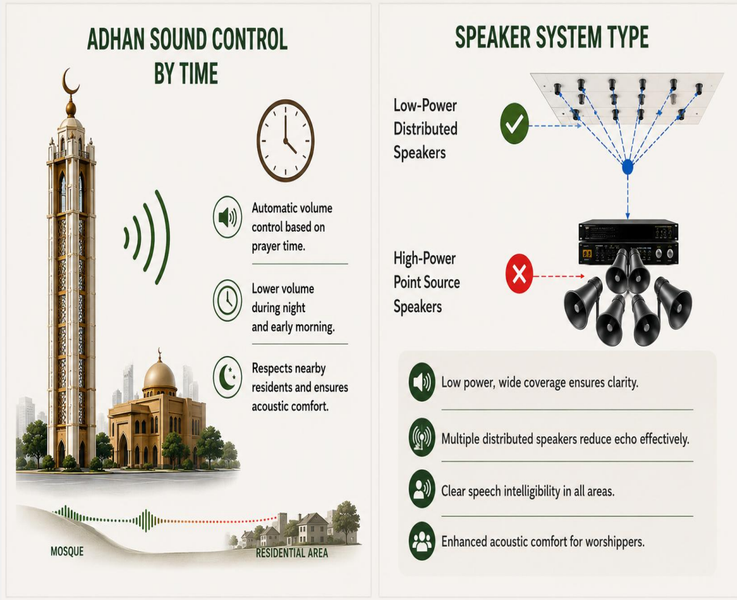
SYSTEMS INTEGRATION & MODERN TECHNOLOGY

INTEGRATED PRAYER HALL AUDIO SYSTEM



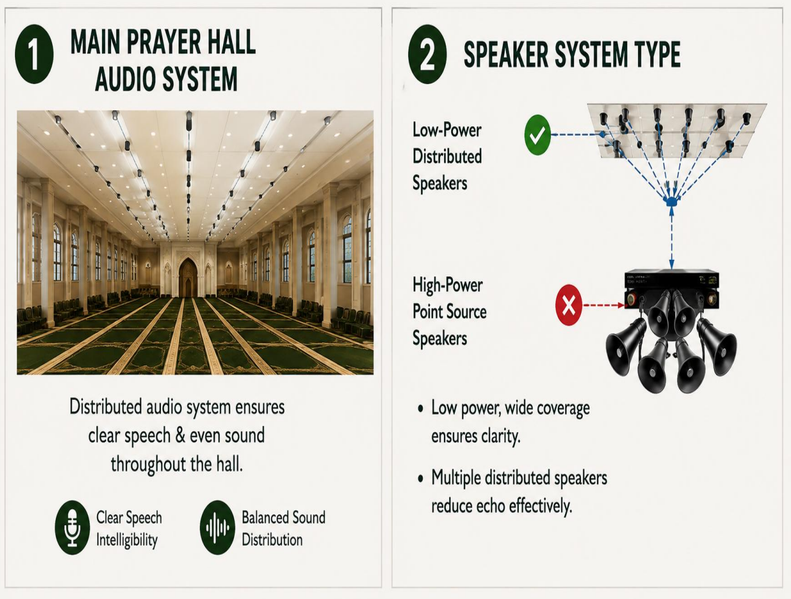
Low-power distributed ceiling speakers
- Uniform sound coverage
- Clear speech intelligibility
- Balanced sound throughout the prayer halls
- Reduced echo and reverberation
- Independent control for each prayer zone
- Smart volume adjustment
- Enhanced acoustic comfort
- Peaceful worship environment

ADHAN SOUND & SPEAKER CONTROL STRATEGY



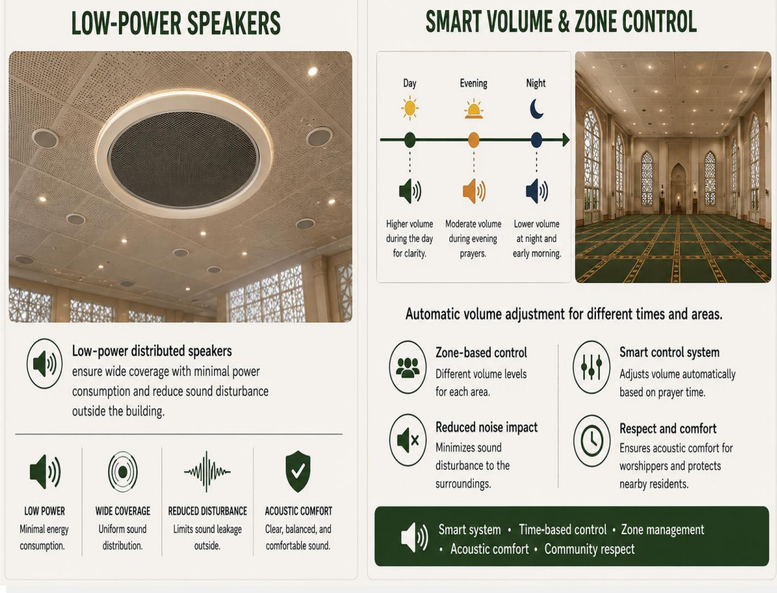
Automatic volume control by prayer time
- Lower volume during night and early morning
- Directional sound toward the community
- Low-power distributed speakers
- Reduced echo and sound disturbance
- Clear and balanced sound coverage
- Protection of nearby residential areas
- Enhanced acoustic comfort

INTEGRATED AUDIO STRATEGY



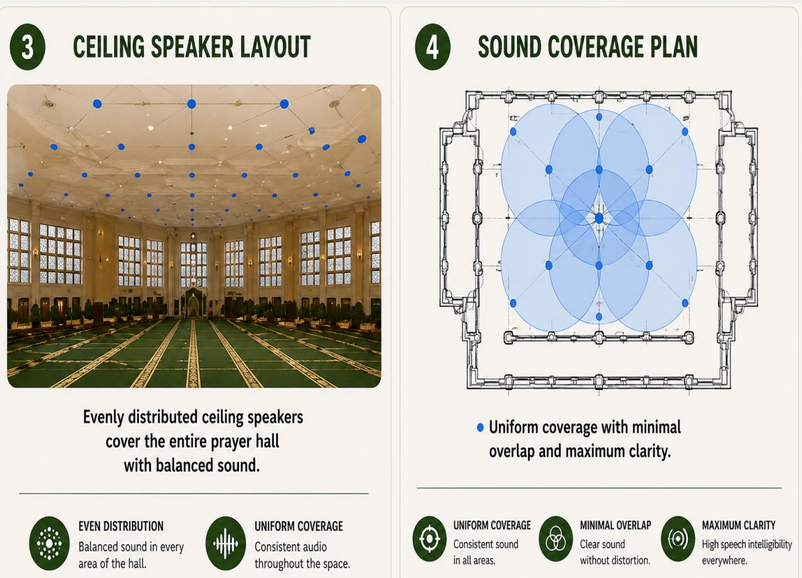
Low-power distributed speakers
- Clear speech intelligibility
- Balanced sound distribution
- Uniform coverage throughout the prayer hall
- Reduced echo and reverberation
- Controlled sound levels
- Enhanced acoustic comfort
- Calm worship environment

SMART AUDIO & VOLUME CONTROL STRATEGY



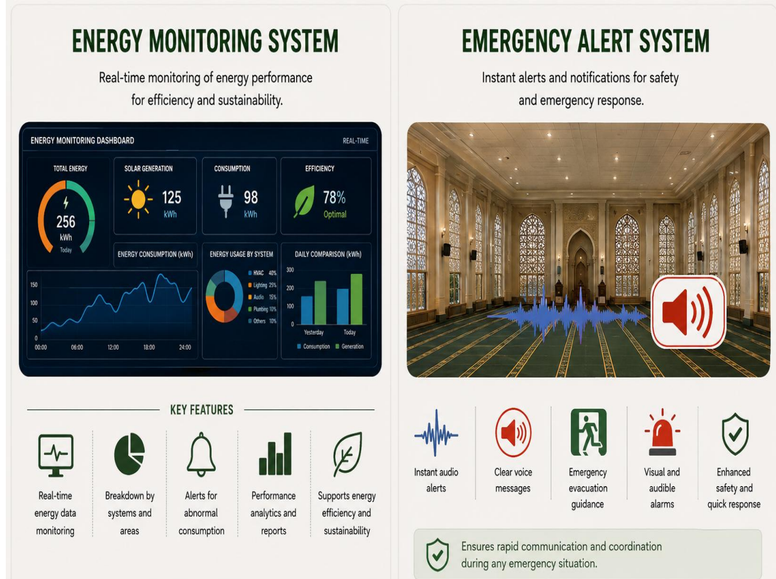
Low-power distributed speakers
- Wide and uniform sound coverage
- Reduced sound disturbance
- Automatic volume adjustment
- Time-based sound control
- Independent zone management
- Minimal sound leakage
- Enhanced acoustic comfort
- Respect for surrounding areas

CEILING SPEAKER & SOUND COVERAGE STRATEGY



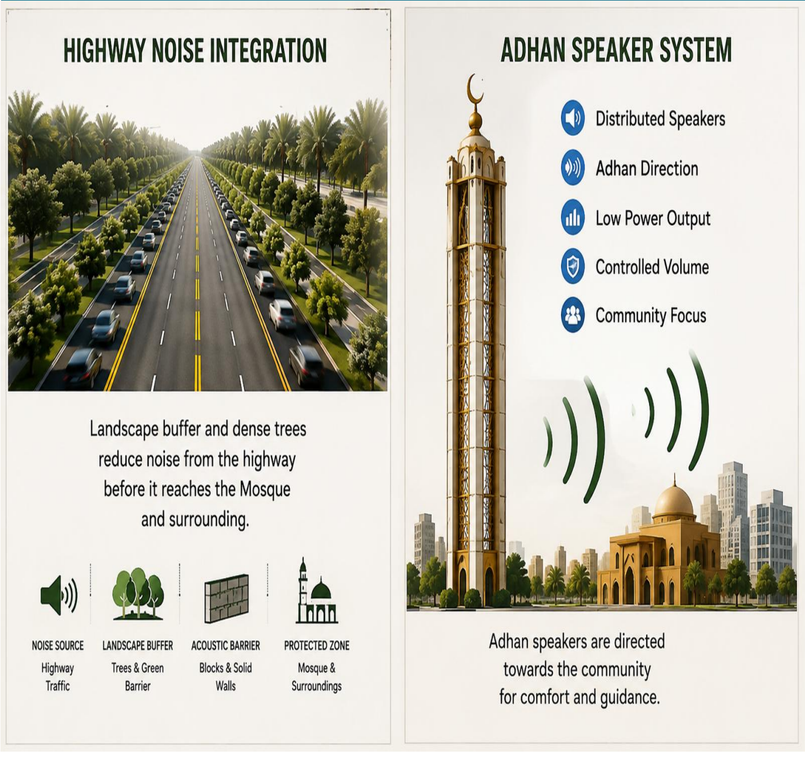
Evenly distributed ceiling speakers
- Uniform sound coverage
- Balanced audio throughout the prayer hall
- Minimal sound overlap
- Reduced echo and distortion
- Clear speech intelligibility
- Enhanced acoustic comfort

ENERGY MONITORING & EMERGENCY ALERT SYSTEM



Real-time energy monitoring
- Smart energy consumption control
- Improved energy efficiency
- Performance tracking and analysis
- Instant emergency alerts
- Clear audio notifications
- Emergency evacuation guidance
- Enhanced safety and rapid response

HIGHWAY NOISE & ADHAN CONTROL STRATEGY



Evenly distributed ceiling speakers
- Uniform sound coverage
- Balanced audio throughout the prayer hall
- Minimal sound overlap
- Reduced echo and distortion
- Clear speech intelligibility
- Enhanced acoustic comfort



Effective external noise reduction
- Multi-layer acoustic barriers
- Landscape buffer for sound protection
- Low-noise HVAC systems
- Acoustic insulation
- Vibration isolation
- Reduced mechanical noise
- Peaceful and comfortable environment

REFERENCES

ENOSH Science Center — 2026 International Student Design Competition Brief.

Long, M. — Architectural Acoustics, 2nd Ed., 2014.

Egan, M. D. — Architectural Acoustics, 1988/2007.

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