

# ISO 16890

## Air Filters for General Ventilation

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**NAFA**  
National Air  
Filtration  
Association

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# What Does ISO 16890 Do?

- First global standard for air filters.
- Unifies & updates aspects from two existing standards.
- Filter efficiency by particle size versus overall score.
- Ties clean air to a critical value – human health.
- Reflects “real life” efficiency during service life.



# #1 – Charged Medias Lose Efficiency

1. And this is still in the Forward section of 52.2:

## Passive Electrostatic Fibrous Media Air Filters

*Some fibrous media air filters have electrostatic charges that may be either natural or imposed upon the media during manufacturing. Such filters may demonstrate high efficiency when clean and a drop in efficiency during their actual use cycle. The initial conditioning step of the dust-loading procedure described in this standard may affect the efficiency of the filter but not as much as would be observed in actual service. Therefore, the minimum efficiency observed during testing may be higher than that achieved during actual use.*



Field tested filters per  
Tested **130** compe

## #2 – Fine Particles Impact Human Health

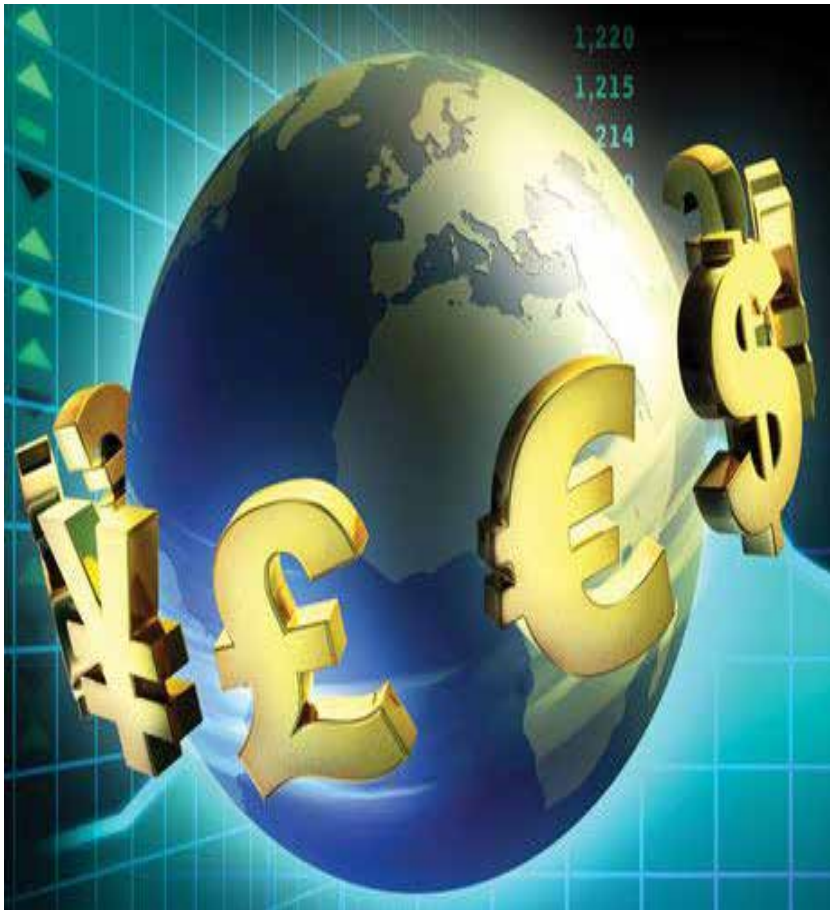
- PM1 particles are considered to be the most **dangerous to human health**.
- PM1 particles often **account for over 90%** of all particulate matter in air.
- Small particles stay in the air and can travel great distances. Harvard Study – **30% of air pollution imported**.
- PM1 particles are generated in every city, **every day**.



Fine particles **impact cancer** & affects our **lungs**, our **cardiovascular system**, our **vision**, our **hearing**, **growth** & even **intelligence & learning**. New data connects **Alzheimer's**, skin damage & aging. Children are the most susceptible to damage



## #3 – Our Market Is Global



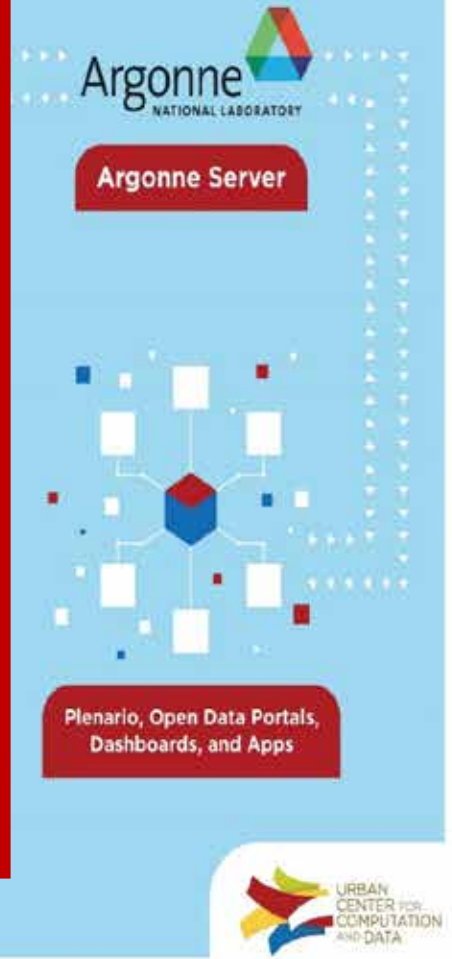
- **47%** of U.S. companies expect profits from international business activities. (2016 International Business Indicator).
- **87%** of U.S. companies agree that international expansion is required for long term growth. (2016 International Business Indicator).
- From 2012-2016 foreign investment in US manufacturing was **\$740 billion** vs. \$493 billion the previous 4 year period (USA Today February 2017).
- **Why?** Low energy cost; Close to customers; Productivity gains.

# City of Chicago

ARRAY  
\*\*\* ARCHITECTURE  
THINGS



- Collaborative between the University of Chicago & Argonne National Laboratory.
- Multi-function sensors measuring air pollution, noise, etc.
- A “fitness tracker” for the city with 80 nodes installed in 2016 and 500 by the end of 2018.
- An app will allow pedestrian and biking commuters to choose the least polluted route to and from work.



Thank you!