



# SCANACON

SCANACON

Filtration systems

Jonas Johansson

2019-11-13



# PROGRAM

- Scanacon in general
- Background and Scanacons solutions
- Different filtration techniques

# SCANACON TODAY



## Comments

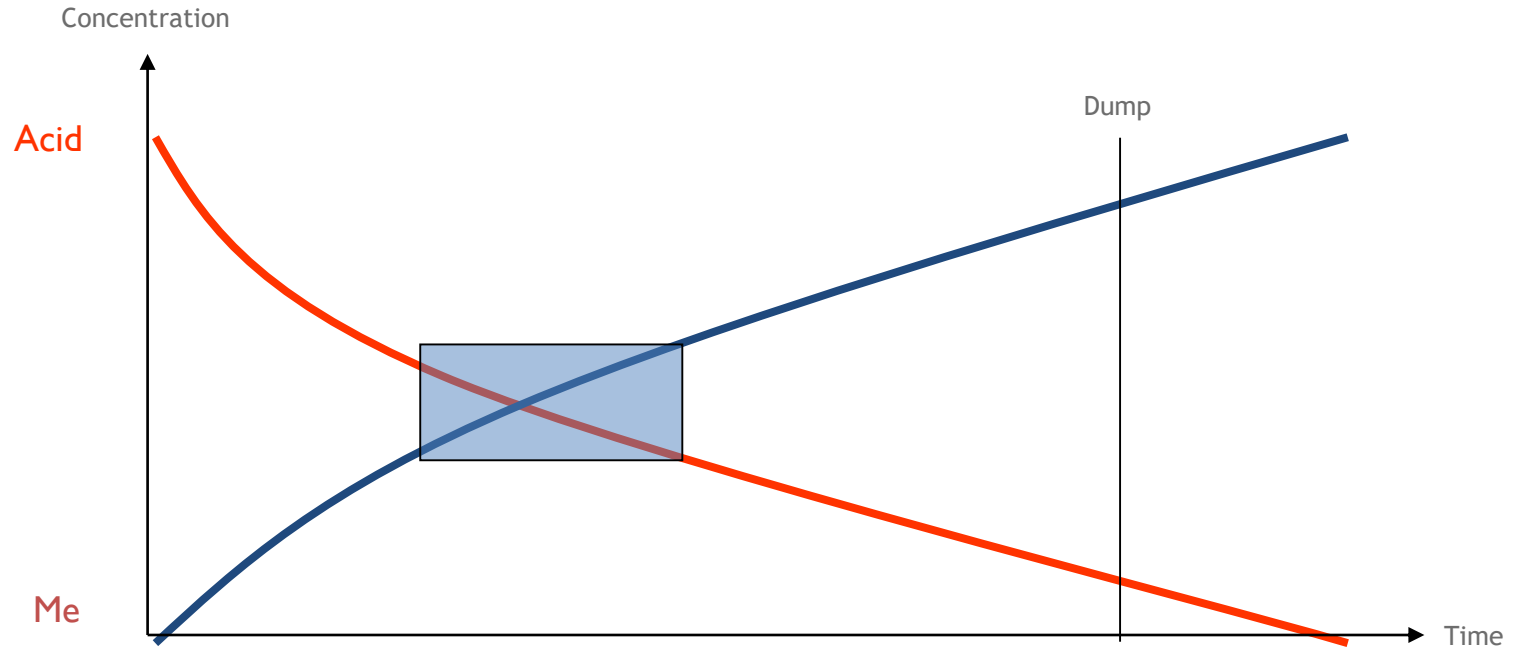
- » Scanacon is based Sweden and operates through 4 principal offices
  - » Stockholm (SE): HQ, sales service & production
  - » Hartville (US): Sales, service & production
  - » Hong Kong (CH): Sales
  - » Shanghai (CH), Sales & service
- » The company employs ~40 FTE
- » Turnover ~15 M€
- » Number of systems installed; abt. 200
- » Number of analyzers installed; abt. 250
- » AAA-rating at Soliditet (f.d. D&B)
- » Certified according to ISO 9001:2015

# OUR STRENGTHS

- Extremely niched environmental enterprise
- Competent employees
- International operation
- Global leadership
- Development potential
- Unique co-operation with strategic customers

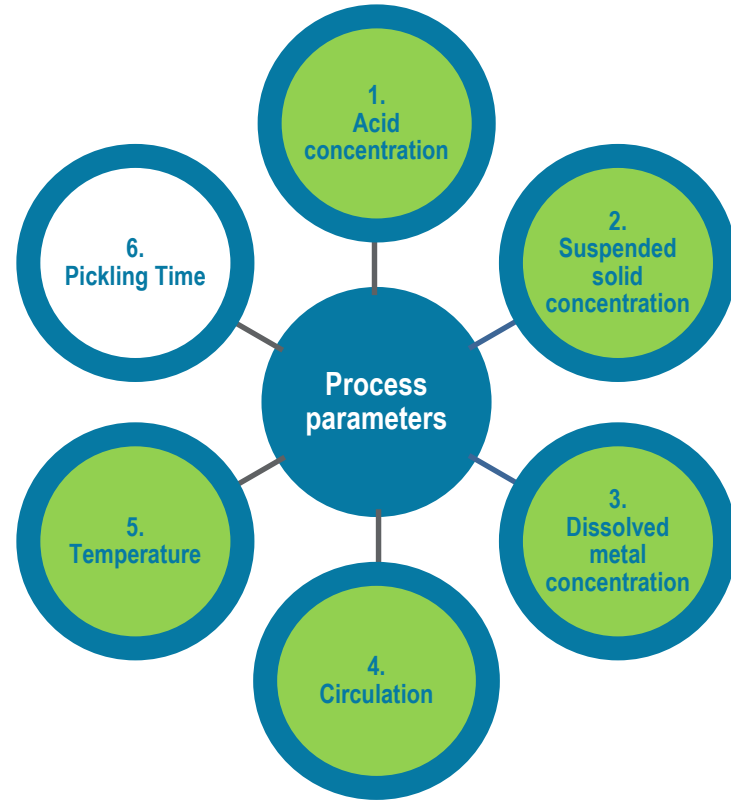


# BACKGROUND



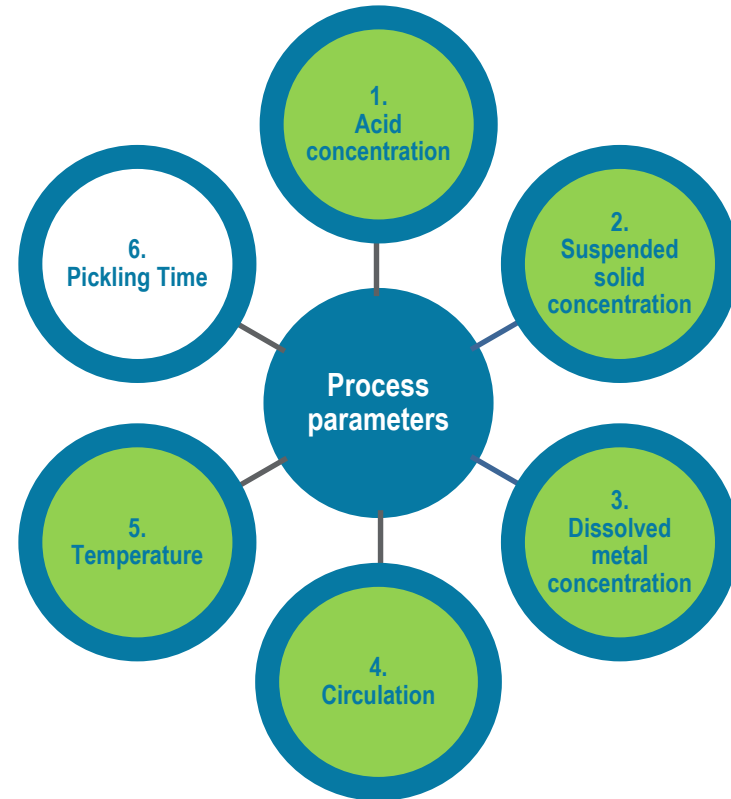
# RELIABLE PROCESS MANAGERS

- The Scanacon SA family
  - is operated by operators
  - gives quick fingerprints
  - gives recommended actions to keep the bath within the given limits
- Measures free acid and dissolved metal concentration

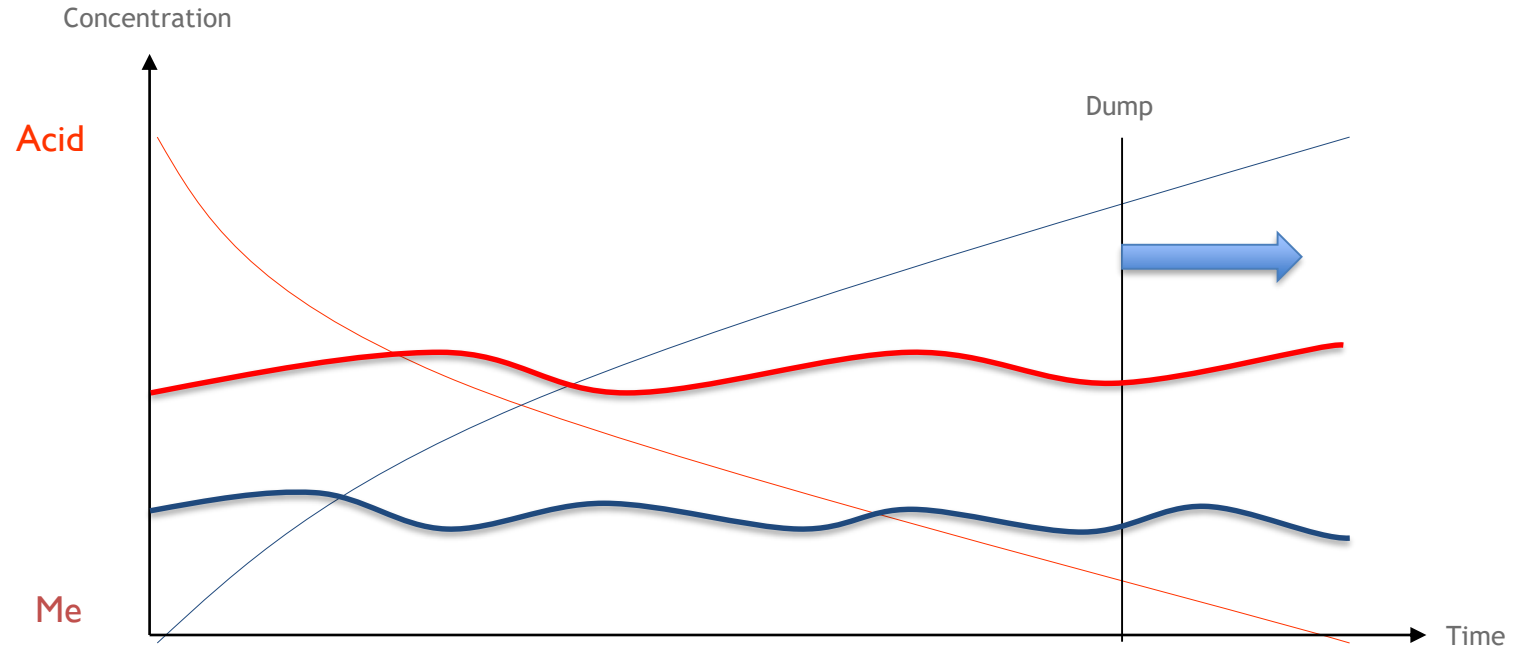


# EFFICIENT ACID RECOVERY

- Recovery of free acid -> Minimizes the chemicals used
- Removal of metal salts -> Reduces the sludge formation
- Reduces environmental impact
  - > Nitrate emission reduced up to 50
  - > Waste product and landfill reduced up to 50%
- Continued pickle process at optimal conditions
  - > Increase the production rate
- No cooling or heating needed
- Only water or rinse water, electricity and compressed air are used in the retardation system.



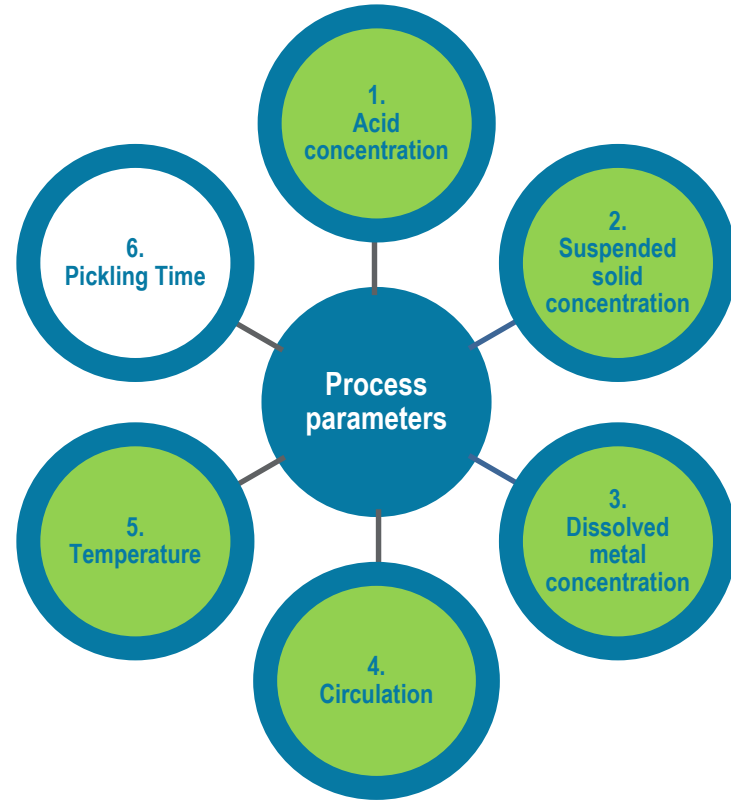
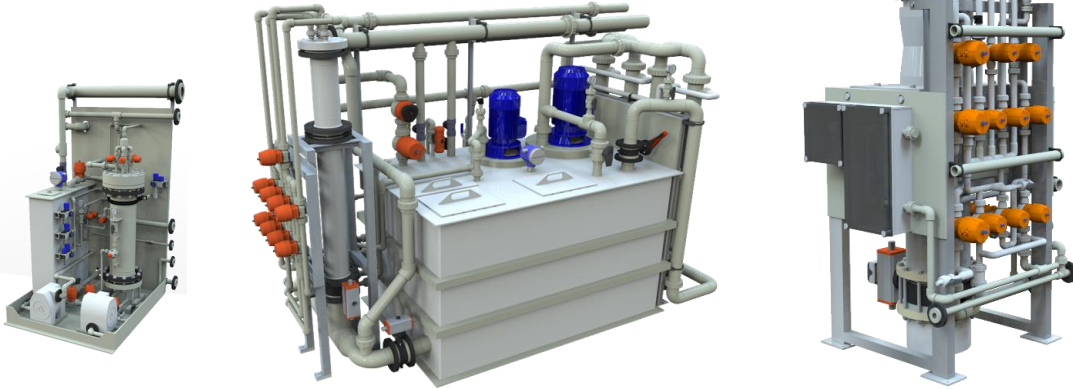
# BACKGROUND





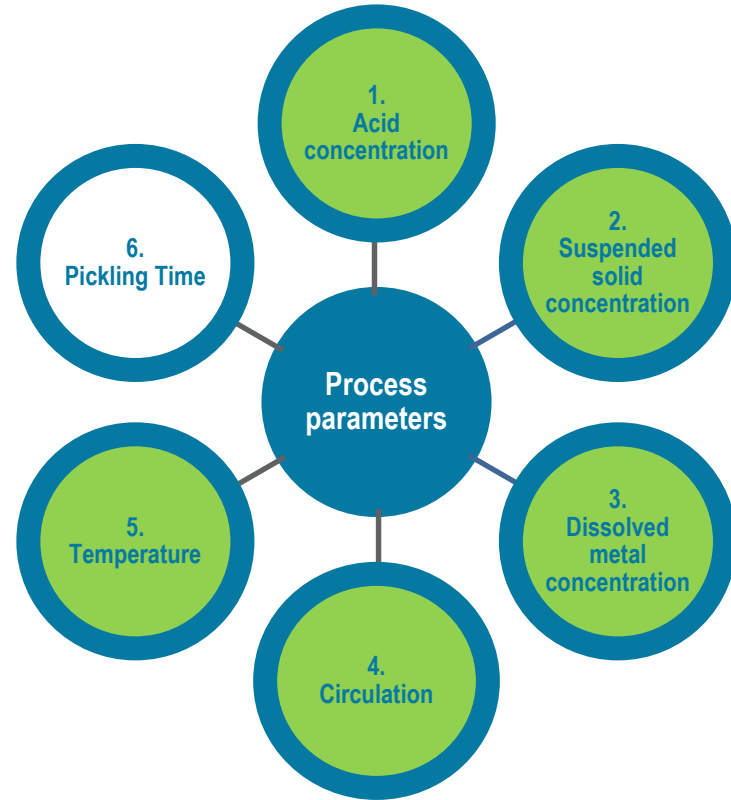
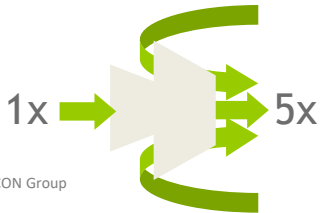
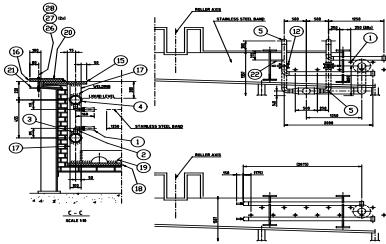
# FILTRATION AND SLUDGE REMOVAL

- Several continual filtration and sludge removal units

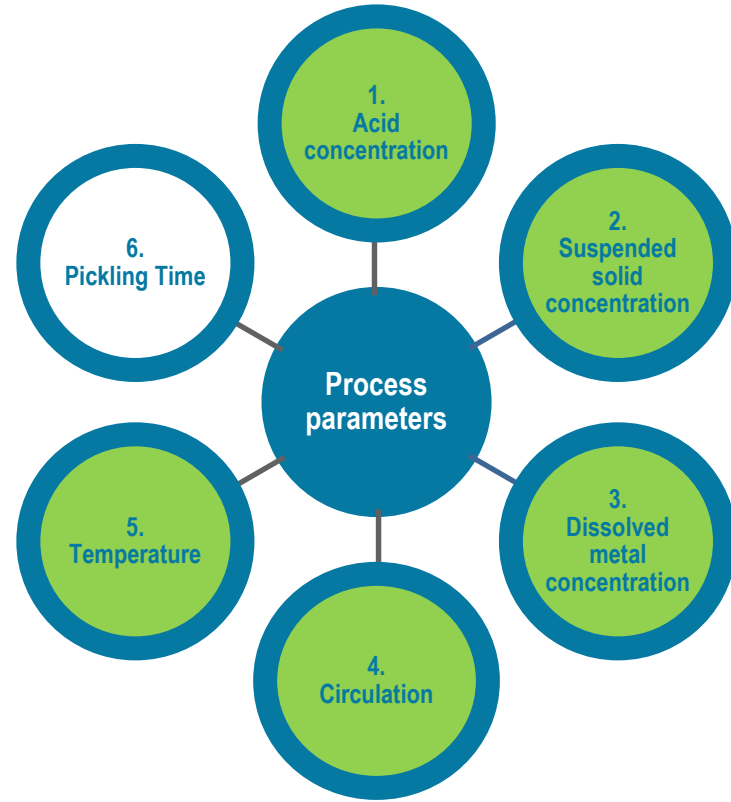
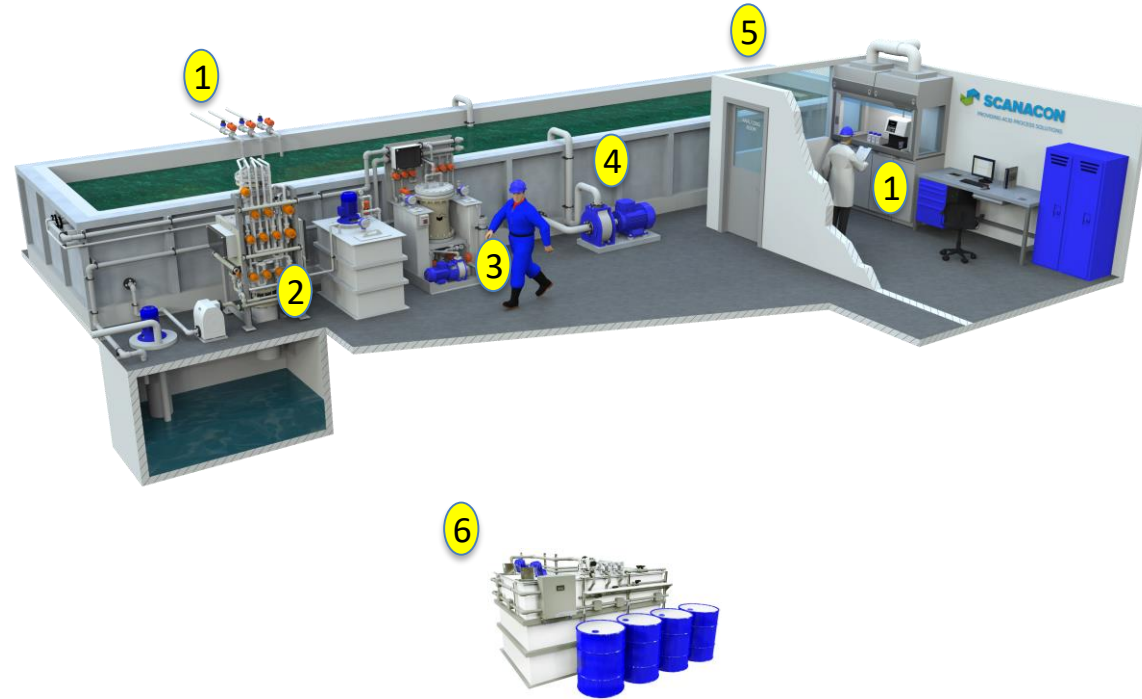


# STRONG TURBULENCE

- The key to a homogeneous solution.
- Reductions in pickling or milling time up to 40 percent.
- Circulation maintains particulate material in suspension.

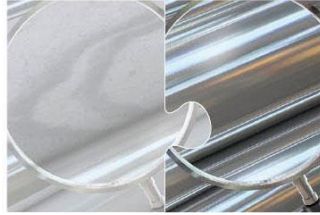


# WHAT DO WE DO?



# SCANACON SOLUTIONS, HELPS YOU TO:

- Increase quality
- Save time



- Reduce cost
- Increase productivity

While saving the environment!



# OUR SOLUTIONS

**“Hands-on solutions for a better environment”  
Closing the loop!**

**Preventing some 20 trillion liters of water being contaminated every year**  
*– that is 7 liters of clean drinking water for every person on the globe every day*

**Less usage/production of 490 000 ton dangerous chemicals/waste products every year**  
*– the same weight as almost 900 passenger planes of type Airbus A380*

**Avoiding every year close to 20 000 transports with 25 m<sup>3</sup> tank trucks and the usage of lime**  
*–thus reducing CO<sub>2</sub> emissions with ~145 000 ton*

# ACID FILTRATION SYSTEMS

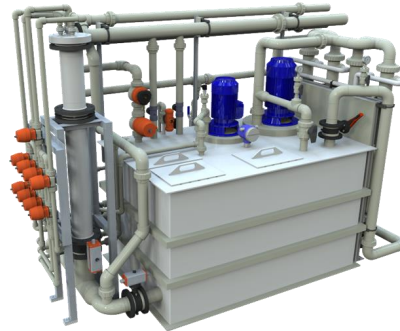
- Over 35 years experience has generated multiple generations of filtration techniques



AFM



ASRA



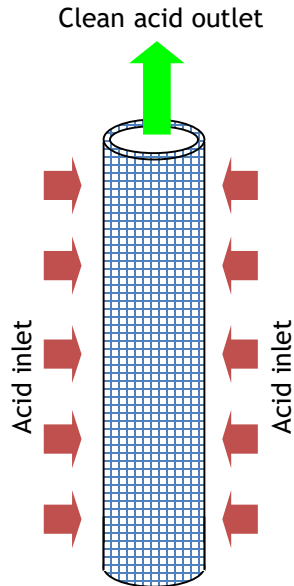
ASRA-SAFU



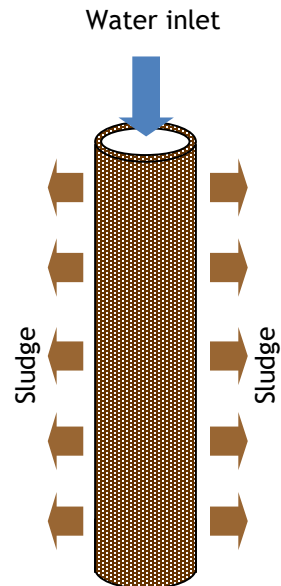
Next generation

# AFM - ACID FILTRATION MODULE

During filtration

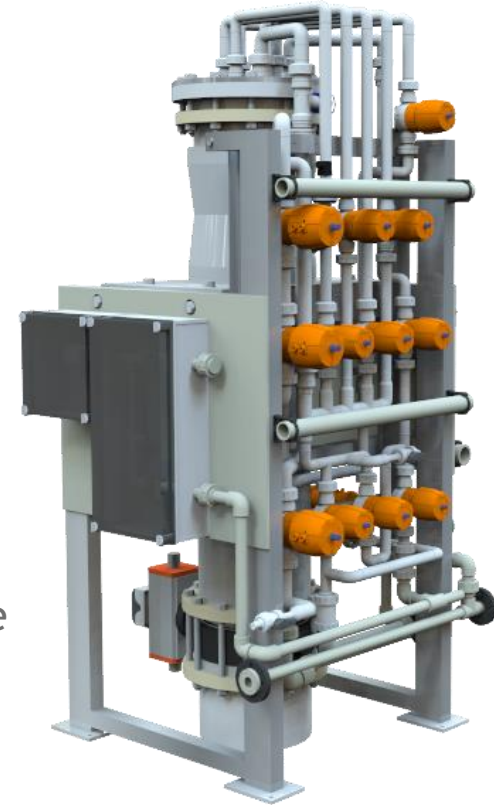


During backwash



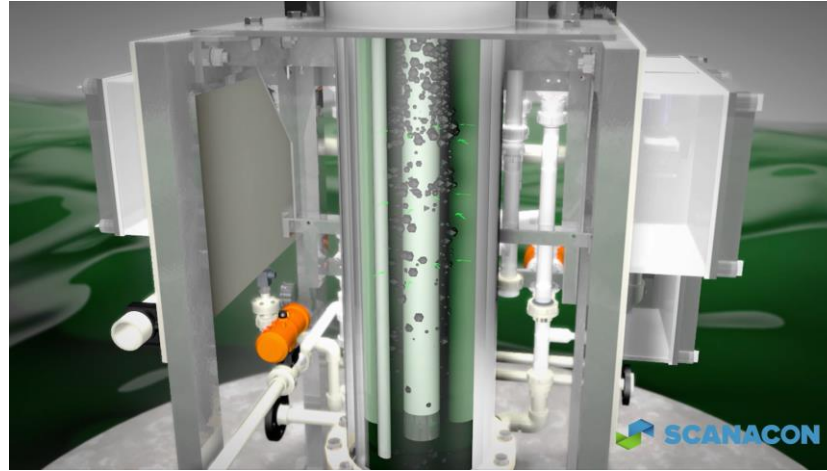
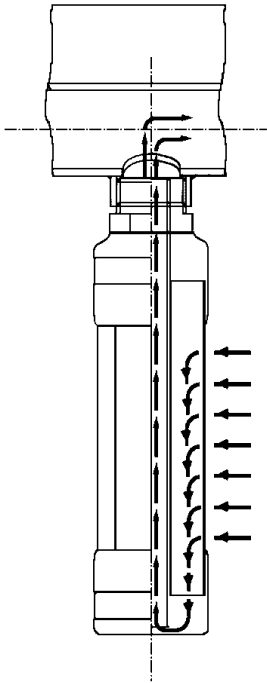
# ASRA SLUDGE REMOVAL DEVICE

- Designed to operate under high SS feed that would quickly blind / clog traditional depth or barrier filtration
- <1 micron cut-off
- Higher flow per installed area over sedimentation
- Superior alternative to filter-press
- No movable plates that require operator maintenance for safe and efficient operation
- Low moisture-high solids cake for easy handling and disposal





### 3. ASRA SLUDGE REMOVAL DEVICE



- Scanacon ASRA Filter element is designed as a series of vertical pipes to which a specialty cloth is attached. Pressure drop across the vertical element rapidly builds a dense cake which, in turn, acts as a filtration medium.

# ASRA SLUDGE REMOVAL DEVICE



Note the colour variation in the PVDF piping.  
Dark, high SS feed versus the clear green  
filtrate stream



Left: High SS, 2.5 M  $\text{H}_2\text{SO}_4$  feed. Right:  
Filtered acid stream after ASRA

### 3. ASRA SLUDGE REMOVAL DEVICE



#### Backwash and cake disposal

- Remaining acid in the filter chamber is returned to the tank
- Air pressure use to crack the filter cake, water is use as a second back wash and to transport the sludge out from the filter element.
- The filter media expands in a radial direction during back wash to ensure that the filter cake is completely removed.
- Disposal of filter cake as in dry or we slurry form

# ASRA SLUDGE REMOVAL DEVICE



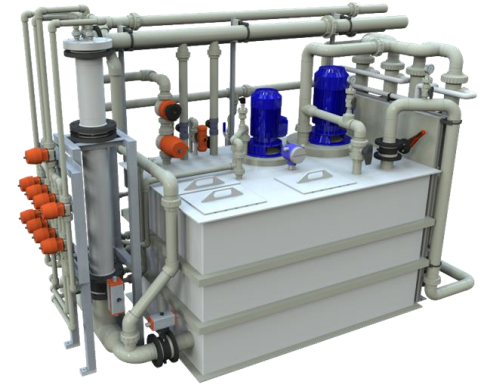
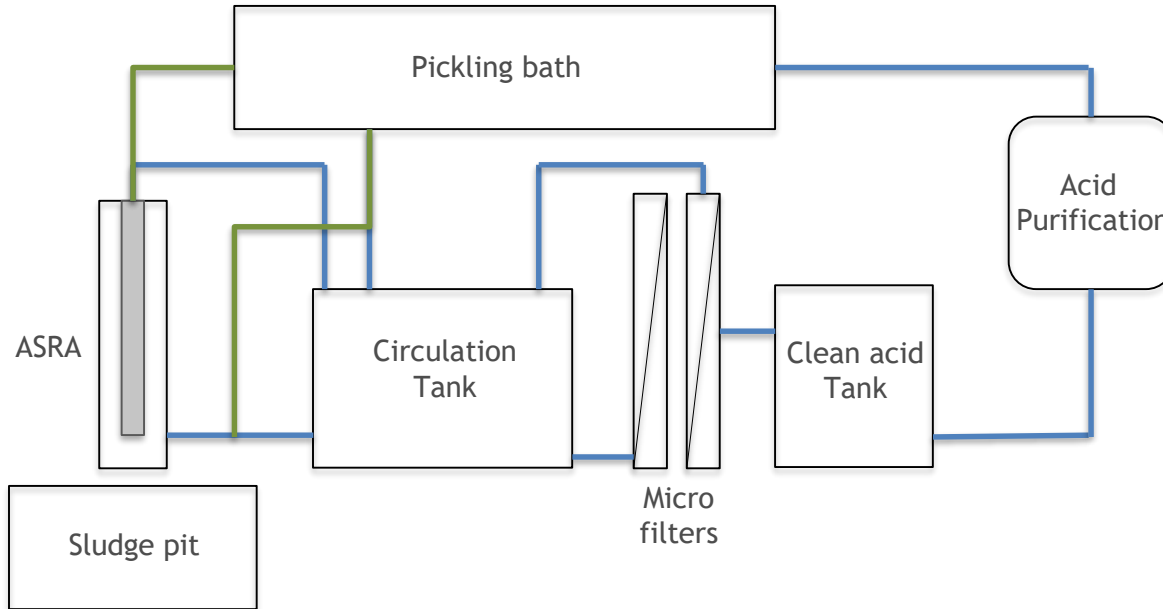
Backwash / Cleaning with solids discharged from ASRA vessel as an slurry with approximately 30% wt/v solids.



Backwash / Cleaning with solids discharged from ASRA vessel as “dry” cake, approximately 70% solids / 30% moisture.

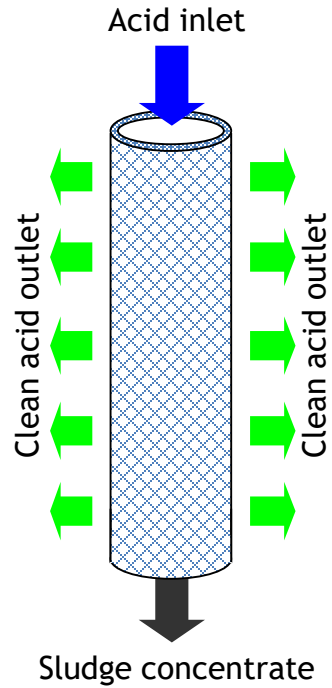
# ASRA-SAFU

Principal drawing



# ASRA-SAFU

Micro filter separation





**SCANACON**

PROVIDING ACID PROCESS SOLUTIONS

