# Implement AHEAD Successfully

#### How it works safely in your organization

# **Technical Track**

## Treatment Policy Track

#### **DATA, SYSTEMS AND EQUIPMENT**



Roads, classes and routes decided Routes recorded for salt spreader Routes adjusted for AHEAD



Salt spreader ability Salt table decided

#### SITUATIONAL OPERATIONAL OPTIONS



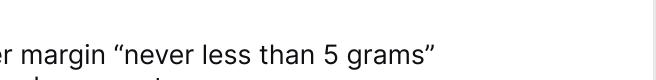
When Confidence in forecast is High (Stable weather)



When Confidence in forecast is low (Volatile weather situation)

Set lower margin "never less than 5 grams"
 Maximum dosage set
 Safety margin – 1 degree on freezing point

Salt spreader



Topography

Road weather station





**TECHNICAL SET UP** 



**OPERATIONS (FOLLOW UP)** 



Weather Stations Installation and Service

MONITORING (KLIMATOR)

**Road Status Information** 

Salt spreader functions and controller

Project management





Connected vehicles

Weather forecasts

AHEAD for adaptive salting for winter maintenance operators is a new, highly advanced technology. It brings new opportunities to how the road network is treated, thus has impact on set up of systems and equipment and treatment policies depending on how you wish to operate it.

The overall understanding of how it works and how the operation organization is trained for using it is crucial for harvesting the benefit it provides.

**Training Track** 



### Checklist - AHEAD

System setup



#### **WINTER ORGANIZATION ELEMENTS**

Management decision to use AHEAD as part of
winter maintenance solutions
Policy on weather situations
Assessment on impact on winter regulations
Trained operations management, winter duty staff and drivers
Select routes/spreaders for AHEAD, supply route information to Klimator
Ensure that spreaders are supported for AHEAI
Install laser, camera, computer. Connect to salt spreader and calibrate



#### **KLIMATOR ELEMENTS**

#### Purchase:

Climatologist report for clarification of
supplementary measurements for hyper
local model

Installation	and	data	feed	- IoT	stations

#### Klimator jobs:

Configure route for AHEAD



#### **SPREADER ELEMENTS**

#### Purchase:

Epoke or Falköping spreaders
and controls

Smaller adaptations/	updates
to controllers	

## peration of AHFAD

#### **BEFORE CALL**

Monitor the weather situation in RSI

#### $\rightarrow$ CALL ROUTES

Call out the route
Call out other routes/
spreaders in the usual
way with dosing in the
usual system

#### → OPERATE THE ROUTE

Fill the sait spreader
Turn on spreader control and
AHEAD control
AHEAD now controls the dosage
Other functions, like spreader
width still controlled by
manufacturers controller

#### $\rightarrow$ END CALL

The data collection shows the exact amount of
salt spread on each segment
Salt quantity per segment has been continuously sent to RSI for salt residue calculation



