SUMMARY OF FORMULATION LOGIC FOR AATRIZINVENTOR SOLUTION

Work Paper

If you applied summary or abbreviated descriptions, have them available to review this logic.

Objective of the Innovation Challenge

Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility

Evaluated Object S1

GROUNDED CARGO SHIP - Type: Moving

Object S2 interacting with S1

SUEZ CANAL SEAFLOOR - Type: Stationary

Physical Variable or Characteristic

Ability to deground

the undesirable

With Less Ability to deground there is undesirable effects, then there is More difficulty to :

Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility

the desirable

With More Ability to deground there is desirable effect, then there is More ease to :

Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility

TRIZ Innovation Parameters Evaluated

TRIZ Innovation Parameters	Undesirable Effect (UDE)/ Desirable Effect (DE)	Evaluate
1. Heaviness of moving object	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is More Weight grounded on the seafloor of the Suez Canal Effect : undesirable	Yes No
3. Length of moving object	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is More Length of grounded section on the seafloor of the Suez Canal Effect : undesirable	Yes No
5. Area of moving object	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is More Area over which it is grounded on the seafloor of the Suez Canal Effect : undesirable	Yes No
9. Speed	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is Less Movement speed grounded on the seafloor of the Suez Canal (stopped, but wishes to move) Effect : undesirable	Yes No
11. Pressure/ Tension	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is More Pressure on the seafloor of the Suez Canal Effect : undesirable	Yes No

TRIZ Innovation Parameters	Undesirable Effect (UDE)/ Desirable Effect (DE)	Evaluate
12. Shape / composition / configuration	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is Less Appropriate form to be grounded on the seafloor of the Suez Canal Effect : undesirable	Yes No
30. Object-affected harmful factors	GROUNDED CARGO SHIP : There is More difficulty to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is More Harmful factors affecting it on the seafloor of the Suez Canal that hinder ungrounding Effect : undesirable	Yes No
27. Reliability	GROUNDED CARGO SHIP : There is More ease to Improve Degrounding of a cargo ship stranded in the Suez Canal affected by running aground on the bottom of the canal due to low tide and lack of visibility because there is More Reliability in ungrounding from the seafloor of the Suez Canal Effect : desirable	Yes No