

Claims

1. A process of applying a protective coating to a vessel comprising the following steps:
 - 5 (i) selecting a protective coating, wherein the selection is made on the basis of risks associated with regions where the vessel has travelled or is expected to travel;
 - (ii) providing the protective coating selected in step (i), and then
 - 10 (iii) applying the protective coating provided in step (ii) to the vessel.
2. A process of applying a protective coating to a vessel as claimed in Claim 1, wherein step (i) comprises the following steps:
 - 15 (a) dissecting the environment into separate regions, and associating a risk rating with each region,
 - (b) obtaining information about the route(s) the vessel has historically taken and/or will take in future through the environment, over a specified period of time,
 - 20 (c) determining which regions of the environment the vessel has travelled and/or will travel through over the specified period of time,
 - (d) combining the data from steps (a), (b) and (c) to calculate the average risk rating the vessel has experienced and/or will experience in the specified period of time, and
 - 25 (e) based on the average risk rating calculated in step (d), selecting a protective coating that has been associated with that average risk rating.
3. The process of applying a protective coating to a vessel as claimed in Claim 2, wherein the protective coating is for one of the following:
 - protection against fouling, such as a fouling control-coating, and the vessel

is a marine vessel,

- protection against corrosion, such as an anti-corrosive coating, and the vessel is a marine, airborne or a land vessel,
- protection against solid and liquid particle abrasion, and the vessel is a marine, airborne or land vessel,
- protection against deterioration as a result of UV absorbance, and the vessel is a marine, airborne or land vessel, or
- protection against ice, such as an anti-ice or ice release coating, and the vessel is a marine, airborne or a land vessel.

4. The process of applying a protective coating to a vessel as claimed in Claim 2 or Claim 3, wherein step (i)(c) also includes determining the amount of time the vessel has spent/will spend in each region in said specified period of time.

5. The process of applying a protective coating to a vessel as claimed in Claims 2 to 4, wherein the information obtained in step (i)(b) includes information about the speed of the vessel travelling in the environment.

6. The process of applying a protective coating to a vessel as claimed in Claims 2 to 5, wherein information obtained in step (i)(b) is GPS or AIS data.

7. The process of applying a protective coating to a vessel as claimed any of Claims 3(a), 4, 5 or 6, which is a process of applying a marine fouling control coating to a marine vessel, wherein the regions are a fouling regions, the risk rating is the fouling risk rating, the environment is the worldwide aquatic environment, and wherein the fouling risk rating of each fouling region of the worldwide aquatic environment in step (i)(a) is determined on the basis of at least one of the following:

- (a) environmental data recorded in the fouling region, for example the amount of chlorophyll, the salinity, the temperature, the pH, the amount of CO₂,

speed and/or direction of the waves, and the nutrient levels, in the fouling region,

(b) the latitude of the fouling region,

5 (c) the distance of the fouling region from the coastline or from land,

(d) the depth of the aquatic environment of the fouling region.

10 8. The process of applying a protective coating to a vessel as claimed in of Claims 2-7 wherein the method in step (i) is used to calculate an optimum thickness of the coating required to coat the vessel.

15 9. The process of applying a protective coating to a vessel as claimed in Claim 8, wherein the protective coating is applied to the vessel at the calculated optimum thickness.

20 10. The process of applying a protective coating to a vessel as claimed in any preceding claim wherein step (ii) includes the manufacture of the protective coating selected in step (i).

11. Manufacture and/or supply of a protective coating selected in accordance with the process defined in step (i) of Claims 1 to 7.

25 12. Method of selecting a protective coating as defined in step (i) of Claim 2, wherein at least steps (c) and (d) are implemented in a computer system.

30 13. A computer system or a computer program product used to select a protective coating for a vessel, wherein the method of selecting the protective coating comprises the steps:

(a) dissecting a environment in which the vessel may travel into separate fouling regions, and associating a risk rating with each region,

- (b) obtaining information about the route(s) the vessel has historically taken and/or will take in future through the environment, over a specified period of time,
- 5 (c) determining which regions of the environment the vessel has travelled and/or will travel through over the specified period of time,
- (d) combining the data from steps (a), (b) and (c) to work out the average risk rating the vessel has experienced and/or will experience in the specified period of time, and
- 10 (e) based on the average risk rating calculated in step (d), selecting a protective coating that has been associated with that average fouling risk rating.

1. A process of applying a protective coating to a vessel comprising the following steps:

- (i) selecting a protective coating, wherein the selection is made on the basis of risks associated with regions where the vessel has travelled or is expected to travel;
- (ii) providing the protective coating selected in step (i), and then
- (iii) applying the protective coating provided in step (ii) to the vessel,

wherein step (i) comprises the following steps:

- (a) dissecting the environment into separate regions, and associating a risk rating with each region,
- (b) obtaining information about the route(s) the vessel has historically taken and/or will take in future through the environment, over a specified period of time, wherein information obtained is GPS or AIS data,
- (c) computer-implemented determining which regions of the environment the vessel has travelled and/or will travel through over the specified period of time, wherein the step also includes determining the amount of time the vessel has spent/will spend in each region in said specified period of time,
- (d) computer-implemented combining the data from steps (a), (b) and (c) to calculate the average risk rating the vessel has experienced and/or will experience in the specified period of time, and
- (e) based on the average risk rating calculated in step (d), selecting a protective coating that has been associated with that average risk rating, wherein step (e) requires the average risk rating which is calculated in step (d) to be matched with the most suitable protective coating which has been pre-designated as being the most suitable protective coating for protection against that level of risk.

2. The process of applying a protective coating to a vessel as claimed in Claim 1, wherein the protective coating is for one of the following:

- protection against fouling, and the vessel is a marine vessel,
- protection against corrosion, and the vessel is a marine, airborne or a land vessel,
- protection against solid and liquid particle abrasion, and the vessel is a marine, airborne or land vessel,
- protection against deterioration, and the vessel is a marine, airborne or land vessel, or
- protection against ice, and the vessel is a marine, airborne or a land vessel.

3. The process of applying a protective coating to a vessel as claimed in Claims 1 or 2, wherein the information obtained in step (i)(b) includes information about the speed of the vessel travelling in the environment.

4. The process of applying a protective coating to a vessel as claimed any of Claims 1, 2, or 3, which is a process of applying a marine fouling control coating to a marine vessel, wherein the regions are a fouling regions, the risk rating is the fouling risk rating, the environment is the worldwide aquatic environment, and wherein the fouling risk rating of each fouling region of the worldwide aquatic environment in step (i)(a) is determined on the basis of at least one of the following:

- (a) environmental data recorded in the fouling region
- (b) the latitude of the fouling region,
- (c) the distance of the fouling region from the coastline or from land,
- (d) the depth of the aquatic environment of the fouling region.

5. The process of applying a protective coating to a vessel as claimed in of Claims 1-4 wherein the method in step (i) is used to calculate an optimum thickness of the coating required to coat the vessel.

6. The process of applying a protective coating to a vessel as claimed in Claim 5, wherein the protective coating is applied to the vessel at the calculated optimum thickness.

7. The process of applying a protective coating to a vessel as claimed in any preceding claim wherein step (ii) includes the manufacture of the protective coating selected in step (i).

8. The process of applying a protective coating to a vessel as claimed in Claims 1-4 wherein the process further includes manufacturing and/or supplying the protective coating selected in accordance with step (i).

9. A computer system or a computer program for executing the process of selecting a protective coating for a vessel using the method of claim 1, wherein the computer system executes the following steps:

- (a) dissecting the environment into separate regions, and associating a risk rating with each region,

- (b) obtaining information about the route(s) the vessel has historically taken and/or will take in future through the environment, over a specified period of time, wherein information obtained is GPS or AIS data,
- (c) computer-implemented determining which regions of the environment the vessel has travelled and/or will travel through over the specified period of time, wherein the step also includes determining the amount of time the vessel has spent/will spend in each region in said specified period of time,
- (d) computer-implemented combining the data from steps (a), (b) and (c) to calculate the average risk rating the vessel has experienced and/or will experience in the specified period of time, and
- (e) based on the average risk rating calculated in step (d), selecting a protective coating that has been associated with that average risk rating, wherein step (e) requires the average risk rating which is calculated in step (d) to be matched with the most suitable protective coating which has been pre-designated as being the most suitable protective coating for protection against that level of risk.

10. A computer program for executing the process of selecting a protective coating for a vessel using the method of claim 1, wherein the computer program executes the following steps:

- (a) dissecting the environment into separate regions, and associating a risk rating with each region,
- (b) obtaining information about the route(s) the vessel has historically taken and/or will take in future through the environment, over a specified period of time, wherein information obtained is GPS or AIS data,
- (c) computer-implemented determining which regions of the environment the vessel has travelled and/or will travel through over the specified period of time, wherein the step also includes determining the amount of time the vessel has spent/will spend in each region in said specified period of time,
- (d) computer-implemented combining the data from steps (a), (b) and (c) to calculate the average risk rating the vessel has experienced and/or will experience in the specified period of time, and
- (e) based on the average risk rating calculated in step (d), selecting a protective coating that has been associated with that average risk rating, wherein step (e) requires the average risk rating which is calculated in step (d) to be matched with the most suitable protective coating which has been pre-designated as being the most suitable protective coating for protection against that level of risk.