We claims:

1. A system for monitoring lubricant of an engine, comprising:

a lubricant sensor, which measures lubricant quantity of an engine;

a data acquisition unit, which collects lubricant quantity of the engine from the lubricant sensor at a fixed time interval; and a message generation unit, which generates a flight-phase lubricant quantity monitoring message and a lubricant addition message according to the lubricant quantity of the engine collected by the data acquisition unit;

wherein the lubricant addition message comprises information reflecting whether lubricant is added during a flight stop phase and quantity of lubricant added during the flight stop, and wherein the quantity of lubricant added are automatically determined according to the lubricant quantity of the engine collected by the data acquisition unit during the flight stop phase.

2. The system of claim 1, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantities after the engine is started, during the cruise phase or when the aircraft starts to descend from the cruise phase, and before the engine is shut down.

3. The system of claim 2, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting modified lubricant quantities during the cruise phase or when the aircraft starts to descend from the cruise phase.

4. The system of claim 2, wherein if the aircraft is in a steady-state cruise condition exceeding a present time period, the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when the aircraft is in a steady-state cruise condition; otherwise, the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when the aircraft starts to descend from the cruise phase.

5. The system of claim 1, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when the engine is idling before it is started.

6. The system of claim 1, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity after more than one engine are shut down.

7. The system of claim 1 further comprises: a warning unit, which sends out warnings in response to abnormality occurring to lubricant to data collected by the data acquisition unit; wherein the lubricant data comprise lubricant quantity, lubricant temperature and/or lubricant pressure.

8. The system of claim 7, wherein the message generation unit generates a lubricant warning message in response to abnormality occurring to lubricant data collected by the data acquisition unit.

9. The system of claim 8, wherein abnormality occurring to the lubricant data comprises the lubricant data exceeding its threshold value for multiple times within a prescribed time period.

10. The system of claim 9, wherein the lubricant warning message comprises: the lubricant data and parameters of the engine as well as the threshold value of the lubricant data when the abnormality occurs to the lubricant data.

11. The system of claim 1 further comprises: a communication unit, which transmits the flight-phase lubricant quantity monitoring message and the lubricant addition message generated by the message generation unit to the airline company via a ground-air data link or a ground transmission apparatus.

12. The system of claim 1, wherein the threshold value of the lubricant data may be modified via an input apparatus on the aircraft.

13. A method for monitoring lubricant of an engine, comprising: collecting lubricant quantity of the engine at a fixed time interval;

and generating a flight-phase lubricant quantity monitoring message and a lubricant addition message according to the lubricant quantity of the engine;

wherein the lubricant addition message comprises information reflecting whether lubricant is added during a flight stop phase and quantity of the lubricant added during the flight stop, and wherein the quantity of lubricant added are automatically determined according to the lubricant quantity of the engine collected by the data acquisition unit during the flight stop phase.

14. The method of claim 13, wherein flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantities after the engine is started, during the cruise phase or when the aircraft starts to descent from the cruise phase, and before the engine is shut down.

15. The method of claim 14, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting modified lubricant quantity during the cruise phase or when the aircraft starts to descend from the cruise phase.

16. The method of claim 14, wherein if the aircraft is in a steady-state cruise condition exceeding a preset time period, the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when the aircraft is in the steady-state cruise phase; otherwise, the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when the aircraft starts to descend from the cruise phase.

17. The method of claim 13, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when the engine is idling before it is started.

18. The method of claim 13, wherein the flight-phase lubricant quantity monitoring message comprises information reflecting lubricant quantity when more than one engine are shut down.

19. The method of claim 13 further comprises: in response to abnormality occurring to lubricant data collected by the data acquisition unit, sending out warnings; wherein the lubricant data comprise lubricant quantity, lubricant temperature and/or lubricant pressure.

20. The method of claim 13 further comprising: transmitting the flight-phase lubricant monitoring message and the lubricant addition message to the airline company via a ground-air data link or a ground transmission apparatus.

21. The method of claim 13 further comprising, in response to abnormality occurring to lubricant data collected by the data acquisition unit, generating a lubricant warning message.

22. The method of claim 21, wherein the abnormality occurring to the lubricant data comprises the lubricant data exceeding its threshold value for multiple times within a prescribed time period.

23. The method of claim 22, wherein the lubricant warning message comprises: the lubricant data and parameters of engine as well as the threshold value of the lubricant data when the abnormality occurs to the lubricant data.

24. The method of claim 22, wherein the threshold value of the lubricant data may be modified via an input apparatus on the aircraft.

25. A method for evaluating performance of an engine, comprising:

obtaining flight-phase lubricant quantity monitoring messages and lubricant addition messages of the engine in multiple consecutive legs according to lubricant quantity of the engine collected in the multiple consecutive legs, wherein the lubricant addition messages comprise information reflecting whether lubricant is added during a flight stop phase and quantity of the lubricant added during the flight stop, and wherein the quantity of lubricant added are automatically determined according to the lubricant quantity of the engine collected by the data acquisition unit during the flight stop phase;

calculating lubricant consumption of each leg within the multiple legs;

obtaining changing rule of lubricant consumption within the multiple legs;

comparing the resulted changing rule of the lubricant consumption with the changing rule of lubricant consumption obtained when the engine works in a good state; and

in response to result of the comparison, evaluating performance of the engine.

26. The method of claim 25, wherein the lubricant consumption comprises average consumption rate of lubricant calculated by using the lubricant addition message and/or reduced quantity of lubricant between a take-off and landing of the aircraft calculated by using the flight-phase lubricant quantity monitoring message.

27. The method of claim 25, wherein the comparison comprises determining whether the lubricant consumption changes by using statistic rule.

28. The method of claim 27, wherein the statistic rule comprises independent sample method.

29. The method of claim 25, wherein the evaluation of performance of the engine comprises determining whether performance of the engine is in the decline phase or failure phase, or predicting possible malfunction of the engine.