**Appendix 7: Detailed requirements 2**

**Fit criteria for non-functional requirements**

1. *Look-and-feel requirements*

LF1: The system shall allow straightforward navigation.

Fit criterion: The system shall be designed with one-page layout.

Applies: All use cases.

LF2: The system shall have a modern look-and-feel.

Fit criterion: The system shall have flat design.

Applies: All use cases.

1. *Usability and humanity requirements*

UH1: The system shall be easy to use for team leaders, operators, and managers.

UH1.a: The system shall be easy to use for operators.

Fit criterion: Operator shall be able to activate and deactivate downtime immediately when the stoppage occurs. Operator shall be able to locate and use contact team leader or request engineering support functions as soon as they appear.

Applies: UC1, UC2, UC3, UC5.

UH1.b: The system shall be easy to use for team leaders.

Fit criterion: As for UH1.a except ‘contact team leader’. Team leader shall be able to locate and use ‘contact manager’ function when stoppage duration exceeds 30 minutes. Team leader shall be able to input performance data within 1 minute. Team leader shall be able to review and correct daily report within 15 minutes.

Applies: UC1, UC3, UC4, UC5, UC6, UC7.

UH1.c: The system shall be easy to use for managers.

Fit criterion: Shift manager shall be able to select production line and navigate between performance and efficiency data immediately. Manager shall be able to review and correct daily report within 15 minutes. Shift manager shall be able to locate historical performance and efficiency data for selected line in less than 1 minute.

Applies: UC6, UC7.

UH2: The system shall be easy to learn for all users.

UH2.1: Typical user who previously dealt with stoppage sheets should be able to learn the main features of the UI without prior training.

UH2.1.a: Experienced team leader/operator shall be able to learn the main features of the UI without prior training.

Fit criterion: 90% of experienced team leaders/operators shall be able to learn the main features of UI in less than 15 minutes without training.

Applies: UC1, UC2, UC3, UC4, UC5, UC6, UC7.

UH2.2: All non-experienced users should understand all the features of UI after short training.

Fit criterion: All users shall be able to use the system after training no longer than 45 minutes.

Applies: All use cases.

1. *Performance requirements*

P1: The system shall have high availability.

Fit criterion: The system shall be available in 99.99% of production time.

Applies: All use cases.

P2: The system shall respond to user requests immediately.

Fit criterion: All user’s requests shall be processed in less than 5 seconds.

Applies: All use cases.

1. *Operational and environmental requirements*

OE1: The system shall operate within large manufacturing environment and a single on-premises server.

Fit criterion: Self-contained.

Applies: All use cases.

1. *Security requirements*

S1: The system shall limit the information displayed depending on the user’s role.

Fit criterion: No more than one breach per year shall occur.

Applies: All use cases.

S2: Only managers/team leaders shall be able to update performance data.

Fit criterion: No breaches shall occur.

Applies: UC6, UC7.

S3: Only system’s administrator shall be able to add/remove users.

Fit criterion: No breaches shall occur.

Applies: UC8, UC9.

S5: Historical data shall not be alterable.

Fit criterion: View only mode for historical performance and efficiency data shall be available.

Applies: UC10.

S6: The system shall require password protected access at different levels.

Fit criterion: No more than one breach per year shall occur.

Applies: All use cases.

1. *Legal requirements*

L1: The system shall operate in accordance with local law.

Fit criterion: The system shall comply with GDPR 2018.

Applies: All use cases.