Nummer	Name	Veröffentlichungsplattform	Datenerzeuger	URL	Beschreibung (Quelle: siehe URL)
1	Aircraft Engine	NASA Prognostics Center of Excellence	A. Saxena and K. Goebel (2008). "PHM08 Challenge Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA		PHM Data Challenge 2008: Data from the data challenge competition held at the 1st international conference on Prognostics and Health Management (PHM08). The dataset is similar to the dataset Turbofan Engine Degradation Simulation except the true RUL values are not revealed.
2	Gearbox Fault Detection	PHM Society	PHM Society, Gearbox fault detection data set, 2010	https://c3.nasa.gov/dashlink/resource s/997/	PHM Data Challenge 2009: Fault detection and magnitude estimation for a generic gearbox using accelerometer data and information about bearing geometry.
3	Milling Machine	PHM Society	X. Li <sup>1</sup> , B.S. Lim <sup>1</sup> , J.H. Zhou <sup>1</sup> , S. Huang <sup>1</sup> , S.J. Phua <sup>1</sup> , K.C. Shaw <sup>1</sup> , and M.J. Er <sup>2 1</sup> Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore 638075 <sup>2</sup> School of Electrical and Electronic Engineering, Nanyang Technological University, Nanyang Avenue, Singapore 639798	https://www.phmsociety.org/competition/phm/10	PHM Data Challenge 2010: The challenge is focused on RUL estimation for a high-speed CNC milling machine cutters using dynamometer, accelerometer, and acoustic emission data.
4	Anemometer Fault Detection	PHM Society	Unknown	https://www.phmsociety.org/competition/phm/11/problem	PHM Data Challenge 2011: Anemometer fault detection, a critical problem for the wind power industry, strongly affecting among other things the financing of a potential site.
5	FEMTO Bearing Data Set	NASA Prognostics Center of Excellence / github	FEMTO-ST Institute, Besançon, France	https://github.com/wkzs111/phm- ieee-2012-data-challenge-dataset	PHM Data Challenge 2012: Experiments were carried out on a laboratory experimental platform (PRONOSTIA) that enables accelerated degradation of bearings under constant and/or variable operating conditions, while gathering online health monitoring data (rotating speed, load force, temperature, vibration).
6	unknown 2013	PHM Society	Unkown	https://www.phmsociety.org/events/ conference/phm/13/challenge	PHM Data Challenge 2013: Maintenance action recommendation, a common problem in industrial remote monitoring and diagnostics.
7	unknown 2014	PHM Society	Unknown	https://www.phmsociety.org/events/ conference/phm/14/data-challenge	PHM Data Challenge 2014: Asset health calculation, a common problem in industrial remote monitoring and diagnostics.
8	Fuel Cell	IEEE Reliability Society, FCLAB research federation, FEMTO-ST Institute, Laboratory of excellence ACTION	FCLAB Research Federation (FR CNRS 3539, France)	https://repository.lboro.ac.uk/articles	PHM IEEE Data Challenge 2014: Experiments were carried out on test facilities that enable normal or accelerated ageing of FCS stacks under constant and/or variable operating conditions, while controlling and gathering health monitoring data like power loads, temperatures, hydrogen and air stoichiometry rates, etc. The data sets provided for the challenge include both temporal and frequential data.
9	Plant Fault Detection	PHM Society	Unknown	https://www.phmsociety.org/events/ conference/phm/15/data-challenge	PHM Data Challenge 2015: Fault detection and prognostics, a common problem in industrial plant monitoring. The final aim is the abality to detect plant faults.
10	Semiconductor CMP	PHM Society	Crystec Technology Trading GmbH	https://www.phmsociety.org/events/ conference/phm/16/data-challenge	PHM Data Challenge 2016: the challenge is focused on tracking the health state of components within a wafer chemical-mechanical planarization (polishing) system.

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11	Bogie Vehicle	PHM Society	Unknown	https://www.phmsociety.org/events/ conference/phm/17/data-challenge	PHM Data Challenge 2017: The challenge is focused on tracking the health state of components within a complex mechanical system representing a train car.
12	Waver Manufactoring	PHM Society	A dataset shared by Kai Goebel (NASA)	https://www.phmsociety.org/events/conference/phm/18/data-challenge	PHM Data Challenge 2018: This data set examines the fault behavior of an ion mill etch tool used in a wafer manufacturing process.
13	Fatigue cracks	PHM Society	Unknown	https://www.phmdata.org/2019datac hallenge/	PHM Data Challenge 2019: Wave signals data from piezo sensors (as well as loading conditions) were collected for a number of aluminum lap joint specimen that are made available for analysis.
14	Filtration System	PHME Society	Unknown	http://phmeurope.org/2020/data- challenge-2020	PHME Data Challenge 2020: 'Run-to-Failure' data is provided with key condition monitoring parameters to estimate the Remaining Useful Life (RUL): flow rate, upstream pressure (before filter) and downstream pressure (after filter). Data is generated under controlled conditions, with key experimental variables of contamination particle size and concentration, i.e. solid-to-liquid ratio.
15	SCARA-robot	PHME Society	Swiss Centre for Electronics and Microtechnology (CSEM)	https://phm-europe.org/data- challenge	PHME Data Challenge 2021: Participants are invited to demonstrate application of state-of-the-art algorithms and models to perform fault detection, classification and root cause identification for a manufacturing production line setup. Exclusive access to rich datasets generated from a real-world industrial testbed has been provided for this competition. The setup comprises sub-systems such conveyor belt motors, infrared camera and robotic arms used in the process of continuous testing of electronic components.
16	NASA Milling	NASA Prognostics Center of Excellence	A. Agogino and K. Goebel. BEST lab, UC Berkeley. "Milling Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	ups/pcoe/prognostic-data-	Experiments on a milling machine for different speeds, feeds, and depth of cut. There is also data acquired of the wear of the milling process.
17	Li-ion Battery Aging	NASA Prognostics Center of Excellence	B. Saha and K. Goebel. "Battery Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#battery	This data set has been collected from a custom built battery prognostics testbed at the NASA Ames Prognostics Center of Excellence. The aim is to be able to manage this uncertainty of actual usage, and make reliable predictions of Remaining Useful.
18	Bearing Data Set	NASA Prognostics Center of Excellence	J. Lee, H. Qiu, G. Yu, J. Lin, and Rexnord Technical Services. IMS, University of Cincinnati. "Bearing Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#bearing	Experiments on bearings. Four bearings were installed on a shaft. The rotation speed was kept constant at 2000 RPM by an AC motor coupled to the shaft via rub belts. A radial load of 6000 lbs is applied onto the shaft and bearing by a spring mechanism. All bearings are force lubricated.

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19	Turbofan Engine Degradation Simulation	NASA Prognostics Center of Excellence	A. Saxena and K. Goebel. "Turbofan Engine Degradation Simulation Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#turbofan	Engine degradation simulation was carried out using C-MAPSS. Four different were sets simulated under different combinations of operational conditions and fault modes. Records several sensor channels to characterize fault evolution.
20	CFRP Composites Data Set	NASA Prognostics Center of Excellence	Abhinav Saxena, Kai Goebel, Cecilia C. Larrosa, and Fu-Kuo Chang "CFRP Composites Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#composites	Run-to-failure experiments were run on CFRP panels with periodic measurements to capture internal damage growth under tension-tension fatigue. Monitoring data consist of lamb wave signals from a network of 16 piezoelectric (PZT) sensors and multiple triaxial strain gages. Additionally, periodic x-rays were taken to characterize internal damage as ground truth information. Three different layups were tested.
21	IGBT Accelerated Aging Data Set	NASA Prognostics Center of Excellence	J. Celaya, Phil Wysocki, and K. Goebel "IGBT Accelerated Aging Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#igbt	Preliminary data from thermal overstress accelerated aging using the aging and characterization system. The data set contains aging data from 6 devices, one device aged with DC gate bias and the rest aged with a squared signal gate bias.  Several variables are recorded and in some cases, high-speed measurements of gate voltage, collector-emitter voltage and collector current are available.
22	Trebuchet	NASA Prognostics Center of Excellence	B. Morton. Sentient Corporation. "Trebuchet Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#trebuchet	Trajectories of different types of balls launched from a trebuchet with varying counter weights. Flights were filmed and extraction routines calculated position of data. Both raw video data and extracted trajectories are provided. Geometry and physical properties of the trebuchet are available.
23	Randomized Battery Usage	NASA Prognostics Center of Excellence	B. Bole, C. Kulkarni, and M. Daigle "Randomized Battery Usage Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#batteryrnddischarge	Batteries are continuously cycled with randomly generated current profiles. Reference charging and discharging cycles are also performed after a fixed interval of randomized usage in order to provide reference benchmarks for battery state of health.
24	Capacitor Electrical Stress	NASA Prognostics Center of Excellence	J. Renwick, C. Kulkarni, and J Celaya "Capacitor Electrical Stress Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#escapacitor	Capacitors were subjected to electrical stress under three voltage levels i.e 10V, 12V and 14V. Data Set contains EIS data as well as Charge/Discharge Signal data.

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25	MOSFET Thermal Overstress Aging	NASA Prognostics Center of Excellence	J. R. Celaya, A. Saxena, S. Saha, and K. Goebel "MOSFET Thermal Overstress Aging Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#mosfet	Run-to-failure experiments on Power MOSFETs under thermal overstress. Power cycling is used to generate the temperature gradients and controlled by a high level hysteresis controller to cycle the device's temperature between low and high temperature settings. Measurements of voltages and currents are taken at slow speed with data acquisition system resulting on aggregated measurements (averaged over multiple turn onoff cycles). In addition, transient measurements are taken with high speed oscilloscope. These transient measurements are not continuous but full cycle waveform are taken every few hundred milliseconds.
26	Capacitor Electrical Stress 2	NASA Prognostics Center of Excellence	J. Celaya, C. Kulkarni, G. Biswas, and K. Goebel "Capacitor Electrical Stress Data Set - 2", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#eoscapacitor	Wereperformed using an SP-150 BiologicPotentiostatinstrument. The measured impedance values of each capacitor wasused to calculate the capacitance (C) and equivalent series resistance (ESR) at regular intervals.
27	HIRF Battery Data Set	NASA Prognostics Center of Excellence	C. Kulkarni, E. Hogge, C. Quach and K. Goebel "HIRF Battery Data Set", NASA Ames Prognostics Data Repository (http://ti.arc.nasa.gov/project/prognostic-data- repository), NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#hirfbatterytests	Battery Data collected from the Experiments on the Edge 540 Aircraft in HIRF Chamber. A small electric unmanned aerial vehicle (e-UAV) is been used in this study. The e-UAV is a 33% sub-scale version of the Zivko Aeronautics Inc. Edge 540 T tandem seat aerobatic aircraft. This vehicle has been actively used by researchers at NASA LaRC to facilitate the rapid deployment and evaluation of remaining flying time prediction algorithms for electric aircraft since 2010.
28	Small Satellite Power Simulation	NASA Prognostics Center of Excellence	C. Kulkarni and A. Guarneros "Small Satellite Power Simulation Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#smallsat	Data collected from the simulated experiments on small satellite BP930 batteries using the MACCOR system. A set of two BP930batteries (Identified as PK31 and PK35) were operated continuously fora simulated satellite operation profile completionfor single cycle. The battery packs were charged to an initial voltage of around 8.35 V for 100% SOC before the experiment was started.
29	Algae Raceway Data Set	NASA Prognostics Center of Excellence	Brad Bebout, Leslie Profert-Bebout, Erich Fleming, Angela Detweiler, and Kai Goebel "Algae Raceway Data Set", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#algae	Experiments were conducted on 3 small raceways in which spirulina was inoculated. The growth and, ultimately, decline of the algae biomass was recorded along with a number of environmental parameters.

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30	Turbofan Engine Degradation Simulation Data Set-2	NASA Prognostics Center of Excellence	M. Chao, C.Kulkarni, K. Goebel and O. Fink (2021).  "Aircraft Engine Run-to-Failure Dataset under real flight conditions", NASA Ames Prognostics Data Repository, NASA Ames Research Center, Moffett Field, CA	https://ti.arc.nasa.gov/tech/dash/gro ups/pcoe/prognostic-data- repository/#turbofan-2	The dataset provides a new realistic dataset of run-to-failure trajectories for a small fleet of aircraft engines under realistic flight conditions. The damage propagation modelling used for the generation of this synthetic dataset builds on the modeling strategy from previous work . The dataset was generated with the Commercial Modular Aero-Propulsion System Simulation (C-MAPSS) dynamical model. The data set is been provided by the Prognostics CoE at NASA Ames in collaboration with ETH Zurich and PARC.
31	APS Failure at Scania Trucks	Kaggle	Scania CV AB - Stockholm	https://www.kaggle.com/uciml/aps-failure-at-scania-trucks-data-set	The dataset consists of data collected from heavy Scania trucks in everyday usage. The system in focus is the Air Pressure system (APS) which generates pressurized air that is utilized in various functions in a truck, such as braking and gear changes. The datasets' positive class consists of component failures for a specific component of the APS system. The negative class consists of trucks with failures for components not related to the APS.
32	Production Plant Data for Condition Monitoring	Kaggle	IMPROVE research project	https://www.kaggle.com/inIT- OWL/production-plant-data-for- condition-monitoring	The use case focuses on the prediction of the condition of an important component within production lines. The condition of this component is important for the function of the plant and the resulting product quality. Data for 8 run-to-failure experiments were provided and 8 features related to the component were selected. Training and prediction data were selected using the leave-one-out method: data from the component under test were selected as the target for the prediction. A set amount of data of all other components were selected and combined to serve as training data for the 'new' condition.
33	CNC Mill Tool Wear	Kaggle	System-level Manufacturing and Automation Research Testbed (SMART) at the University of Michigan	https://www.kaggle.com/shasun/tool- wear-detection-in-cnc- mill#experiment 03.csv	A series of machining experiments were run on 2" x 2" x 1.5" wax blocks in a CNC milling machine. Machining data was collected from a CNC machine for variations of tool condition, feed rate, and clamping pressure.
34	Versatile Production	Kaggle	Institut für industrielle Informationstechnik (inIT) der Technischen Hochschule Ostwestfalen-Lippe		Data taken of the Versatile Production System (VPS) for a wide variety of tasks, including model learning, anomaly detection,
35	Genesis Demonstrator	Kaggle	Institut für industrielle Informationstechnik (inIT) der Technischen Hochschule Ostwestfalen-Lippe (IMPROVE)	https://www.kaggle.com/inIT- OWL/genesis-demonstrator-data-for- machine-learning	The Genesis Demonstrator is a portable pick-and-place demonstrator which uses an air tank to supply gripping and storage units. The data from the whole process is acquired.
36	Predictive Maintenance	Kaggle	Unkown	https://www.kaggle.com/c/predictive- maintenance1/overview	The goal is to predict which day is a failure day in advance (e.g. 1-day in advance prediction) based on the features. The dataset is in kind of time series, consisting of log message and failure record of 984 days.

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37	One Year Industrial Component Degradation	Kaggle	Institut für industrielle Informationstechnik (inIT) der Technischen Hochschule Ostwestfalen-Lippe (IMPROVE)	https://www.kaggle.com/inIT- OWL/one-year-industrial-component- degradation	This dataset contains machine data from a degrading component recorded over the course of a total of 12 months.  This machine data is from an OCME Vega shrink wrapper used in large production lines in the food and beverage industry.
38	Steel Plates Faults	UCI	Semeion Research Center of Sciences of Communication - Rome, Italy	https://archive.ics.uci.edu/ml/dataset s/steel+plates+faults	A dataset of steel plates faults, classified into 7 different types.  The goal was to train machine learning for automatic pattern recognition.
39	Maintenance of Naval Propulsion Plants	UCI	1: DIBRIS - University of Genoa 2: School of Marine Science and Technology, Newcastle University	http://archive.ics.uci.edu/ml/datasets /Condition+Based+Maintenance+of+ Naval+Propulsion+Plants	The experiments have been carried out by means of a numerical simulator of a naval vessel (Frigate) characterized by a Gas Turbine (GT) propulsion plant. The different blocks forming the complete simulator (Propeller, Hull, GT, Gear Box and Controller) have been developed and fine tuned over the year on several similar real propulsion plants. In view of these observations the available data are in agreement with a possible real vessel.
40	Mechanical Analysis	UCI	University of Torino, Italy	http://archive.ics.uci.edu\ml\datasets \text{Mechanical+Analysis}	Fault diagnosis problem of electromechanical devices. Each instance contains many components, each of which has 8 attributes. Different instances in this database have different numbers of components.
41	Robot Execution Failures	UCI	Universidade Nova de Lisboa, Monte da Caparica, Portugal	https://archive.ics.uci.edu\ml\dataset s\Robot+Execution+Failures	This dataset contains force and torque measurements on a robot after failure detection. All features are numeric although they are integer valued only. Each feature represents a force or a torque measured after failure detection. Each failure instance is characterized in terms of 15 force/torque samples collected at regular time intervals starting immediately after failure detection. The total observation window for each failure instance was of 315 ms.
42	Condition monitoring of hydraulic systems	UCI	ZeMA - Zentrum für Mechatronik und Automatisierungstechnik gemeinnützige GmbH Saarbrücken	https://archive.ics.uci.edu/ml/dataset s/Condition+monitoring+of+hydraulic +systems	The data set addresses the condition assessment of a hydraulic test rig based on multi sensor data. Four fault types are superimposed with several severity grades impeding selective quantification.  The data set was experimentally obtained with a hydraulic test rig. This test rig consists of a primary working and a secondary cooling-filtration circuit which are connected via the oil tank. The system cyclically repeats constant load cycles (duration 60 seconds) and measures process values such as pressures, volume flows and temperatures while the condition of four hydraulic components (cooler, valve, pump and accumulator) is quantitatively varied.

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43	Bearing Damage	University Paderborn	University Paderborn Kat	https://mb.uni- paderborn.de/kat/forschung/datacen ter/bearing-datacenter/data-sets-and- download/	An experimental bearing data sets for condition monitoring (CM) based on vibration and motor current signals. The test rig was operated under different operating conditions to ensure the robustness of CM methods at different operating conditions. The rotational speed of the drive system, the radial force onto the test bearing and the load torque in the drive train are the main operation parameters.
44	Azure Blob	GitHub	Unknown	https://github.com/Azure/PySpark- Predictive-Maintenance	The input data is simulated to reflect features that are generic for most of the predictive maintenance scenarios. The data set has around 2 million records with 172 columns simulated for 1900 machines collected over 4 years. Each machine includes a device which stores data such as warnings, problems and errors generated by the machine over time.
45	Gearbox Fault Diagnosis	OpenEl	OpenEI User Yogesh Pandya Username: gearbox_data	https://openei.org/datasets/dataset/ gearbox-fault-diagnosis-data	Gearbox Fault Diagnosis Data set include the vibration dataset recorded by using SpectraQuest's Gearbox Fault Diagnostics Simulator. Dataset has been recorded with the help of 4 vibration sensors placed in four different direction. Data set has been recorded under variation of load from '0' to '90' percent. Data set has been recorded in two different scenario: 1) Healthy condition and 2) Broken Tooth Condition
46	Bolts	OpenML	Submitted by W. Robert Stephenson, Iowa State University	https://www.openml.org/d/857	Data from an experiment on the affects of machine adjustments on the time to count bolts. Bolts are dumped into a large metal dish.  A plate that forms the bottom of the dish rotates counterclockwise. This rotation forces bolts to the outside of the dish and up along a narrow ledge. Due to the vibration of the dish caused by the spinning bottom plate, some bolts fall off the ledge and back into the dish. As a bolt drops, it passes by an electronic eye that counts it. When the electronic counter reaches the preset number of bolts, the rotation is stopped and the conveyor belt is moved forward.
47	Predictive maintenance dataset	zenodo	Huawei Munich Research Center	https://zenodo.org/record/3653909#. YAmTTBYxkcQ	Datasets from a variety of IoT sensors for predictive maintenance in elevator industry. The data is useful for predictive maintenance of elevators doors in order to reduce unplanned stops and maximizing equipment life cycle. The dataset contains operation data, in the form of timeseries sampled at 4Hz in high-peak and evening elevator usage in a building (between 16:30 and 23:30). For an elevator car door the system we consider: Electromechanical sensors (Door Ball Bearing Sensor), Ambiance (Humidity) and Physics (Vibration).

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48	Diesel Engine Faults	Mendeley Data	Denys Pestana-Viana - Federal Center of Technological Education Celso Suckow da Fonseca (CEFET-RJ), Rio de Janeiro, Brazil	https://data.mendeley.com/datasets/ k22zxz29kr/1	The objective of this dataset is the fault diagnosis in diesel engines to assist the predictive maintenance, through the analysis of the variation of the pressure curves inside the cylinders and the torsional vibration response of the crankshaft. Hence a fault simulation model based on a zero-dimensional thermodynamic model was developed.