# Well Candidates Screening for Treatments & Interventions

- Well candidates screening tool for a quick assessment of a potential increase of production
- Proprietary machine learning approach to classification of well jobs
- Easily customized in accordance with customer technical and economic criteria
- Well treatment efficiency increase by 10-15% with simultaneous reduction of involvement of reservoir engineering staff by 3-5 times
- Filed data requirements:
  - Local well coordinates
  - Monthly oil & liquid production volumes; monthly water injection
  - Well operation data: liquid flow rate, dynamic level, water cut, etc.
  - History of previously performed well treatment & intervention operations: design and achieved efficiency
  - Well logs [origin data & interpretation], well tests data

![BaysData Consulting]

# Well Candidates Screening for Treatment & Intervention operations

FIELD DATA

- Monthly oil & liquid production volumes; monthly water injection
- Well operation data: liquid flow rate, dynamic level, water cut, etc.
- Well logs [origin data & interpretation]
- Well tests data
- Well treatments history: design and achieved efficiency

EFFICIENCY CLASSIFIER
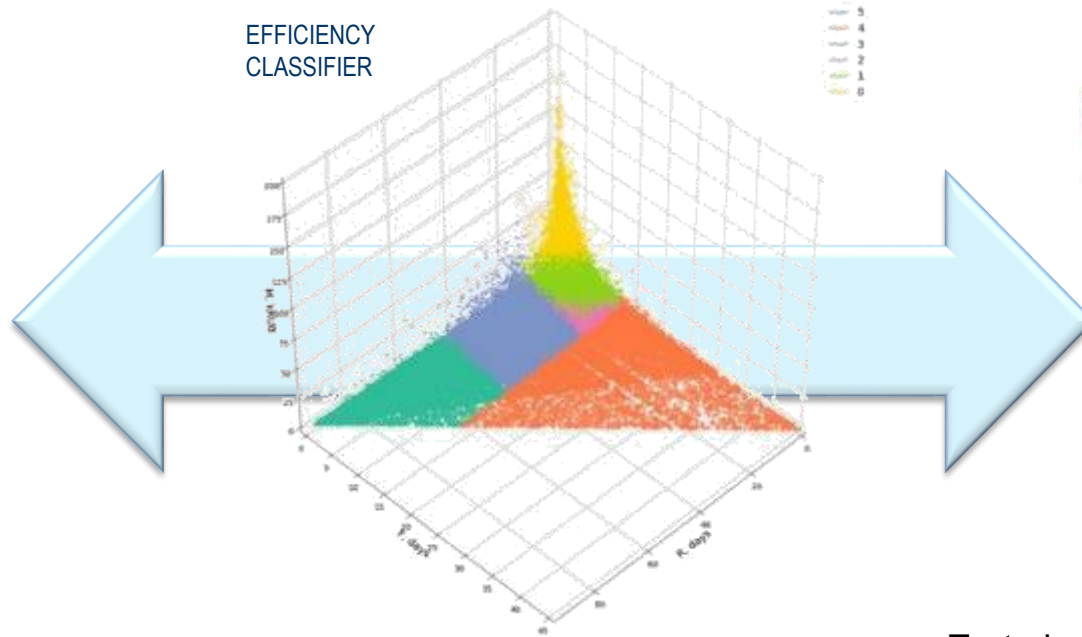
WELL TREATMENT EFFICIENCY ESTIMATION

Actual production

efficiency

treatment

Q_H

$Q_ж$
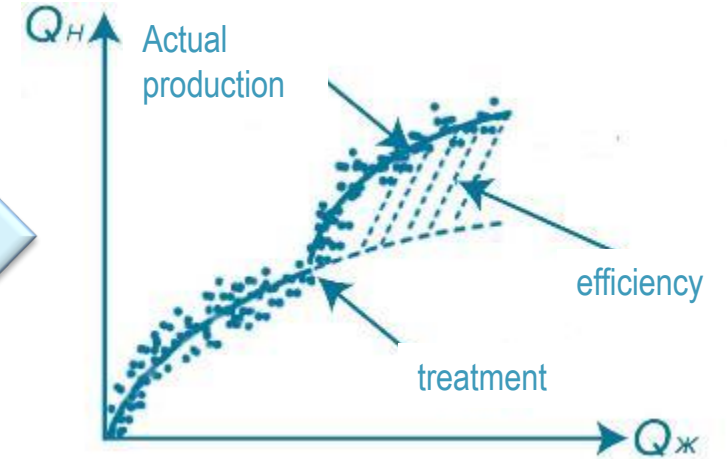
well	T1 ↓	T2	T3	T4
Well #1	0.95	0.22	0.65	0.31
Well #2	0.77	0.59	0.81	0.29
Well #3	0.71	0.46	0.30	0.90
….				
Well #N	0.36	0.77	0.90	0.98

well	T1	T2	T3	T4
Well #1	20.5	40.0	8.3	12.4
Well #2	38.2	61.2	5.4	51.3
Well #3	14.4	18.6	12.3	41.1
….				
Well #N	28.2	37.5	6.4	3.1

- Tested on field data from an oilfield with over 40 years of production history; well count = 2700+
- Success probability → Distance to cluster boundary
- Projected increase in treatment efficiency is 10-15% (assessment in progress)

T1 – well performance optimization via BHP drawdown
T2 – frac job
T3 – acid treatment
T4 – well is shifting to overlying reservoir